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SOCIO-ECONOMIC CHARACTERISTICS OF UNREGISTERED URBAN INFORMAL SECTOR IN AGRA AND KANPUR IN UTTAR PRADESH AND PURI IN ORISSA : A NEED FOR REHABILITATION PROGRAMME

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R.S.Tiwari[*]

I Background of Issues

Sizeable employment opportunities in the informal sector, owing to its capacity to provide employment and income opportunities for the urban poor, the unskilled and semi-skilled urban workers, various facets of this sector need to be studied more comprehensively now than in the past. The most important factor to be reckoned in undertaking a study on informal sector is that very little has come to be known about the functioning of this sector in metropolitan medium and small Indian cities. The study dealing with important aspects of informal sector backed by relevant database will enable a proper analysis of potential of the informal sector as an instrument of growth, besides being useful in evolving an appropriate development policy for the informal sector workers. While considerable studies have been carried out to study the registered segment of informal sector, the studies dealing various activities under the unregistered segment of informal sector are not, however, adequate. Published information on above aspects is not available at all and, therefore, data on such aspects can only be collected by an empirical study designed specifically for this purpose. Such a study will enable a proper analysis of the informal sector workers and make suggestions for their upliftment. In the light of above, the present study attempts to examine specifically: (i) the pattern of migration; (ii) to estimate the contribution of unregistered informal sector workers in terms of employment and income; (iii) to examine the poverty, living conditions and consumption pattern; (iv) to examine the promotional measures for the workers engaged in unregistered informal workers; and (v) to suggest certain specific policy measures for the overall socio-economic development of unregistered informal sector workers in Agra, Kanpur and Puri cities in proper perspective.

For the present study, Agra and Kanpur in Uttar Pradesh and Puri in Orissa have been selected. The population of the Agra as per 1991 census has been recorded to be 11.11 lakhs. The

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data suggests that household and non-household industrial workers engaged in leather works and stone making primarily dominate the Agra. Population of the Kanpur urban as per 1991 census comes to 20.37 lakhs.[1] In the city, there are 1613 industrial enterprises registered under the 1948 Indian Factories Act and to 18,128 small industrial units with total workers of 45,784.[2] It seems to suggest that primarily non-household workers employed in various economic activities like leather, engineering and small-scale textile enterprises, primarily dominate the Kanpur. Puri, according to 1991 census, had the population of 1.25 lakhs, which is primarily dominated by other services, which, in turn, includes tourism, trade and commerce, transport, storage, communication and fishing and allied activities.[3]

A-priori, we propose to make an in-depth study of 500 unregistered informal sector workers each from Agra and Kanpur cities in Uttar Pradesh and another 500 such workers in Puri in the state of Orissa. In all, 1500 workers engaged in unregistered informal segment have been proposed for in-depth field investigation. The selection of Kanpur, Agra and Puri are guided by the concentration of workers under unregistered informal sector segment. While Kanpur offers ample opportunities for workers in unregistered manufacturing informal activities. Agra being small city offers opportunities for repairing and leather based manufacturing informal activities. An other aspect of informal sector activities, which has not been considered seriously, is the fishing activity, which has been carried out nearby the sea or river coast. Puri offers an ample opportunity, where fishermen with or without licence are engaged in fishing activity of unregistered informal sector. As for the selection of 500 workers from each city, it has been done by following the stratified random sampling method. At the first stage, each city is divided into four parts – East, West, North and South. At the second stage, 125 workers have been selected in each part and randomly the informal sector workers are selected. Due care was taken while selecting the workers about the heterogeneity of different economic activities. The present study relates to the year 1998-99.

II Migration: Pattern and Causes

In the literature on urban development, the causes of migration differ from one city to another. Similarly, the level of poverty varies from one type of dwelling to another depending on the developmental level of the different metropolitan, medium and small cities. Also, the consumption pattern of city dwellers differs from one city to another depending on the level of economic activities carried out at the city level. The examination of above aspects would likely to be helpful for in-depth understanding about the socio-economic conditions of unregistered informal sector workers in selected cities.

We find that 7.20 per cent in Agra, 11.60 per cent in Kanpur and to 1.40 per cent in Puri are the migrant workers. In all cities, the migrant workers account for 6.73 per cent, of the total unregistered informal sector workers. Of the total migrant workers, 55.56 per cent in Agra have come from urban areas, while to 67.24 per cent in Kanpur and to 100 per cent in Puri from rural hinterland. Generally, intra-state migration took place in case of Agra and Kanpur, while inter-state migration has been reported in case of Puri city.

Generally, the rural push and urban pull factors are held responsible for the process of rural-urban migration. Rural push relates to the increased pressure on land resulting into poverty, urban pull manifests the job prospect, urban amenities and the charms of city life.[4] This model, being too simplistic, lacks not only the theoretical rigour and empirical reality but also fails to provide a complete explanation for the process of migration. As a result, some theoretical models were developed to explain the process of rural-urban migration. Models formulated by Eckaus,[5] Lewis[6] and Fei and Ranis[7] explain how the rural out-migrants are absorbed in urban industrial sector. However, these models have primarily considered the factors on demand side, where the transfer of workers from rural to urban areas is considered as one stage phenomenon. It implies that work force transferred from rural areas gets directly absorbed in the high productive urban industrial sector.

This is, however, not the whole truth. Rural workforce, after migration initially gets absorbed in the traditional informal sector but overtime, after having acquired enough experience and skills, they get entry into the urban industrial sector. Therefore, it is the two stage phenomena which give a complete explanation for labour absorption taking into account both demand as well as supply side aspects of employment problem. Based on these arguments, Todaro[8] developed a rigorous model in order to explain more precisely the process of rural-urban migration. Todaro's model is based upon two principal factors : (i) rural-urban real income differentials; and (ii) high probability of getting a job in the urban industrial or formal sector. In this model more weightage is given to the second factor as has been stated:

> "Even if the prevailing real wage is significantly higher than expected rural income, the fact that the 'probability' of obtaining a modern sector job, say within the next year or two, is very low must certainly influence the perspective migrant's choice as to whether or not he should leave the farm. In effect he must balance the probabilities and risks of being unemployed or sporadically employed in the city for a certain period of time against the favourable urban wage differentials."[9]

Todaro's model explains the rural-urban migration mainly in terms of productivity differential existing between the rural and modern urban sector and the probability of getting absorbed in the latter after certain time lag. "The latter probability is governed by the ratio of new

modern employment opportunities in a given period relative to the number of accumulated job seekers in the urban traditional sector."[10] Todaro's model, considered three sectors, viz. (i) rural agricultural sectors, (ii) traditional informal or 'holding' sector, and (iii) modern industrial sector. Thus, the transfer of workforce from rural to urban informal and then from informal to formal sector was the fundamental basis of Todaro's model. Although, this model is superior vis-à-vis the other models discussed, yet it deviates from the real situations prevailing in most of the developing economies on account of its underlying unrealistic assumptions. Todaro himself admits that his model assumes "the constancy of rate of growth of urban modern employment sector and the urban real wage premium, which cannot be empirically sustained."[11] Besides, the model also assumes free entry into the modern industrial sector from the 'holding' informal sector. However, the entry into the modern industrial sector is highly restrictive, on account of its formalized structure in terms of recruitment of workers, regulation of labour laws and the existence of trade union activities. Experiences of many developing countries do suggest that contrary to the "predictions made by these models rural labour did not get absorbed in the dynamic urban economy because urban industrial sector has been more sluggish than was assumed in the model."[12]

It has been revealed that 61.11 per cent of workers in Agra, 41.38 per cent in Kanpur, 85.71 per cent in Puri and to 51.49 per cent in all cities have migrated owing to the low level of income. It would imply that expectation of high earning has pushed such workers into the unregistered manufacturing and the non-manufacturing segments of the informal sector. Migration due to the poor job prospect is caused to the 19.44 per cent of workers in Agra, 36.21 per cent in Kanpur, 14.29 per cent in Puri and to 28.71 per cent in all cities. The family conflict as a primary reason for migration has been reported by 16.67 per cent of migrant workers in Agra, 18.97 per cent in Kanpur and to 16.83 per cent in all cities. Thus, rural push on account of low level of income has been found as the main determinant of the process of rural-urban migration vis-à-vis other urban pull factors.

II.1 Pattern of Job Changes

The pattern of job changes in the unregistered informal sector is generally of horizontal type, i.e., casual to casual within the same type of firm/establishment. Table-1 portrays the pattern of job changes of workers. The in-depth examination of job changes requires an index of job mobility defined as a ratio between number of job changes and working years in the industry. Based on above preedure per-se, we find that a worker changes job in 12.5 years of his service in Agra. In Kanpur and Puri, the corresponding figure comes to 20 years and 50 years respectively. This is an interesting finding, which underlines the scarcity of job in the industry and thereby it

forces workers to remain within this segment for the long period for their survival. In Puri, however, the situation is more pitiable. In fisheries, workers once employed in a particular establishment are given loan to such an extent that it becomes non-payable throughout their service period. Consequently, workers are forced to work as a bonded labour throughout their whole service period.

Table-1 : Pattern of Job Changes of Migrant Workers in Agra, Kanpur and Puri : 1999

Work experience	Cities														
	Agra					Kanpur					Puri				
	Job changes				Index of job mobility	Job changes				Index of job mobility	Job changes				Index of job mobility
	0	1	2	3		0	1	2	3		0	1	2	3	
Upto 1 years	7	--	--	--	--	3	--	--	--	--	--	--	--	--	--
1 to 2 years	3	2	--	--	0.21	10	--	--	--	--	1	--	--	--	--
2 to 3 years	--	1	--	--	0.46	2	1	--	--	0.12	--	--	--	--	--
3 to 4 years	2	--	--	--	--	5	--	--	--	--	--	--	--	--	--
4 to 5 years	5	2	--	--	0.06	6	1	--	--	0.03	1	--	--	--	--
5 to 8 years	1	4	1	--	0.15	3	4	1	--	0.11	1	1	--	--	0.06
8 to 15 years	1	--	--	1	0.13	5	7	3	--	0.08	1	--	--	--	--
Above 15 years	1	2	3	--	0.06	1	4	1	--	0.05	1	1	--	--	0.02
Total	20	11	4	1	0.08	35	11	5	--	0.05	5	2	--	--	0.02

Source : Based on the information collected from the field in Agra, Kanpur and Puri cities.

II.2 Waiting Period

Of the migrant workers in Agra, 44.44 per cent came in the city with a hope to get job, while for 41.67 per cent of workers, job was fixed to them. Also, 13.89 per cent of workers came in the city with an assurance to get the job. In Kanpur city, 68.97 per cent of workers migrated with a hope to get the job, while for 20.69 per cent the job was fixed to them. Another for 10.34 per cent of workers, job was assured to them. In Puri, for 57.14 per cent of workers job was fixed, while 42.86 per cent of workers migrated with a hope to get the job. In all cities, 58.42 per cent of workers migrated with a hope to get the job, while for 30.69 per cent had job fixed for them. It emerges that the unregistered informal sector workers generally migrated in the cities with a hope to get the job for their survival.

Generally, 36.11 per cent migrant workers in Agra did not wait at all to get the job. Workers waiting upto 10 days for getting the job come to 33.33 per cent. Thus, a majority of workers in Agra did not wait at all to get absorbed in the unregistered informal sector. In Kanpur, 22.41 per cent of workers did not wait at all to get the job, while 39.66 per cent of workers waited upto 10 days for absorption in the unregistered informal sector. In Puri, a majority of workers (57.14 per cent) did not wait at all to get the job, while 42.86 per cent of workers waited upto 10 days. In all cities, a majority of workers (37.62 per cent) waited upto 10 days, while 29.71 per cent of workers did not wait at all to get the job. Thus, to enter into the unregistered informal segment, worker only requires 10 days to get the job or there is no waiting period at all. The job in this segment is seen provided generally by relatives/friends. For example, 94.44 per cent of migrant workers in Agra, 100 per cent each in Kanpur and Puri and to 98.02 per cent in all cities have entered into the job through relatives/ friends. Thus, close links with relatives/friends are found as the basis for getting the job in the unregistered informal sector.

III Employment, Income and Poverty

In the urban development literature, the contribution by informal sector in terms of income and employment has been well recognized. Generally, the contribution by this sector ranged between 20 per cent to 45 per cent in terms of income and between 20 per cent to 65 per cent in terms of employment. In urban cities like Bombay, Jakarta and Nairobi, the employment by informal sector was estimated at 50 per cent,[13] 41 per cent[14] and 20 per cent[15] in Kumasi, 60-70 per cent[16] in Sao Paulo 35-40 per cent[17] in Calcutta[18] in Ahmedabad 45 per cent[19] and in Kanpur to 37 per cent,[20] of city's total workforce.

In terms of income, this sector generated over 30 per cent of city's total income.[21] Although, the contribution by informal sector in terms of employment and income has been worked out across the cities, the contribution by unregistered component of informal sector has, rarely been estimated. It is doubtful and scattered and, therefore, very little has come to be known about the significance of unregistered informal sector in terms of generation of income from this sector.

It may be recapitulated that city, "being an integral part of the much larger economic system, the task of its income and employment estimation is far more difficult and hazardous. City or any spatial unit of the district or state is more small and open and owing to this, the trade of goods and services constitutes an important segment of the city, for which information on many aspects are not generally available."[22] It has rightly been stressed that "first the information is not

compiled taking the city as a spatial unit. Second, secrecy provisions whereby information at disaggregated level of industrial classification can not be divulged if the number of units is less than three in a particular industrial category, impinge rather harshly on the researcher trying to get information on the city economy."[23] In the present study, we have used value-added approach for estimating the income from unregistered manufacturing informal sector while income approach from unregistered non-manufacturing informal segment. The employment has been worked out by considering the field surveys conducted in each cities of Agra, Kanpur and Puri. It may be mentioned that owing to the non-availability of information base from published sources, we relied only on field surveys for estimating the income and employment for unregistered informal sector.[24]

III.1 Unregistered Informal Manufacturing Segment

Based on the methodology per-se, we may now discuss the employment generated from the unregistered informal manufacturing segment. A close examination of table-2 suggests that in Agra other manufacturing (NIC-38), out of 265 workers, significantly employed the unregistered workers of 12.46 per cent, followed by basic metals (NIC-33) of 8.68 per cent. Paper printing and allied (NIC-28), food products (NIC-20&21) and repairs (NIC-39) have equally proportionately employed to 8.30 per cent each. The remaining unregistered manufacturing informal activities employed to less than 8 per cent of workers.

In Kanpur, the corresponding economic activities are other manufacturing (NIC-38), leather (NIC-29) and repairs (NIC-39), which, out of 255 workers, respectively employed 11.78 per cent, 9.42 per cent and to 8.24 per cent of workers. The remaining economic activities employed to less than 8 per cent, of the unregistered manufacturing informal sector workers. In Puri, such economic activities are food products (NIC-20&21), repairs (NIC-39) and other manufacturing (NIC-38), which, out of 94 workers, account for 29.78 per cent, 23.40 per cent and to 22.34 per cent. Other important economic activities, in order of importance, are paper, printing and allied (NIC-28) and rubber and plastic (NIC-30), which employed 7.45 per cent and to 5.32 per cent, of the total unregistered informal manufacturing sector workers (94). Thus, it would imply that other manufacturing (NIC-38) and basic metals (NIC-33) in Agra, other manufacturing (NIC-38) and leather (NIC-29) in Kanpur and food and food products (NIC-20&21), repairs (NIC-39) and other manufacturing (NIC-38) in Puri were the major employment generating economic activities within the unregistered informal manufacturing segment (table-2).

Table-2: City-wise Employment Generation from Unregistered Manufacturing Informal Segment : 1998-99

Sl. No.	NIC code no.	Manufacturing activities	Cities					
			Agra		Kanpur		Puri	
			Workers (No.)	%	Workers (No.)	%	Workers (No.)	%
1.	20&21	Food products	22	8.30	20	7.84	28	29.78
2.	23	Cotton textiles	20	7.55	20	7.84	2	2.13
3.	28	Paper, printing and allied	22	8.30	20	7.84	7	7.45
4.	29	Leather products	20	7.55	24	9.42	--	--
5.	30	Rubber and plastics	20	7.55	20	7.84	5	5.32
6.	31	Chemicals	21	7.92	20	7.84	1	1.06
7.	33	Basic metals	23	8.68	20	7.84	2	2.13
8.	34	Metal products	20	7.55	20	7.84	2	2.13
9.	35	Machinery	21	7.92	20	7.84	2	2.13
10.	36	Electrical machinery	21	7.92	20	7.84	2	2.13
11.	38	Other manufacturing	33	12.46	30	11.78	21	22.34
12.	39	Repairs	22	8.30	21	8.24	22	23.40
		Total	265	100.00	255	100.00	94	100.00

Source : Based on the sample of workers surveyed in each cities.

III.2 Non-Manufacturing Informal Sector

Table-3 exhibits the generation of employment within the unregistered non-manufacturing informal segment. It is revealed that in Agra services not elsewhere classified (NIC-99), personal services (NIC-96), storage and warehousing (NIC-74) and retail trade in others (NIC-68) were the important economic activities, employing 10.64 per cent, 10.21 per cent, 9.79 per cent and to 9.79 per cent of the workers, of the total surveyed workers (235) employed in unregistered non-manufacturing informal segment. The rest of economic activities were, however, found to be less significant and each employed to less than 9 per cent of unregistered non-manufacturing informal sector workers (235).

The important employment generating economic activities in Kanpur were the retail trade in others (NIC-68) and services not elsewhere classified (NIC-99), which have employed 16.75 per cent and to 9.81 per cent, of the total surveyed workers (245). The remaining economic activities were, however, found to be less significant, which employed to less than 9 per cent of unregistered non-manufacturing informal sector workers (245). In Puri, the major economic activities were services not elsewhere classified inclusive of fishing (NIC-99) followed by personal services (NIC-96), which, of the workers in the segment (406) employed respectively 66.75 per cent and to 12.80

per cent of workers. The other economic activities were, however, found to be less important, which employed to less than 6 per cent of unregistered non-manufacturing informal sector workers (406).

Table-3: City-wise Employment Generation from Unregistered Non-Manufacturing Informal Segment : 1998-99

Sl. No.	NIC code no.	Non-manufacturing activities	Cities					
			Agra		Kanpur		Puri	
			Workers (No.)	%	Workers (No.)	%	Workers (No.)	%
1.	60	Wholesale trade in food and miscellaneous manufacture	20	8.51	20	8.16	--	--
2.	63	Wholesale trade in all types of machinery and equipment including transport and electrical equipment	20	8.51	20	8.16	--	--
3.	65	Retail trade in food and food products, beverages, tobacco and intoxicants	20	8.51	20	8.16	24	5.90
4.	66	Retail trade in textiles	20	8.51	20	8.16	9	2.22
5.	67	Retail trade in fuel and other household utilities and durable	20	8.51	20	8.16	14	3.45
6.	68	Retail trade in others	23	9.79	41	16.75	23	5.67
7.	69	Restaurants and hotels	20	8.51	20	8.16	12	2.96
8.	74	Storage and warehousing	23	9.79	20	8.16	1	0.25
9.	82	Real estate and business services	20	8.51	20	8.16	--	--
10.	96	Personal services	24	10.21	20	8.16	52	12.80
11.	99	Services not elsewhere classified	25	10.64	24	9.81	271	66.75
		Total	235	100.00	245	100.00	406	100.00

Source : Based on the sample of workers surveyed in each cities.

Thus, services not elsewhere classified (NIC-99) and personal services (NIC-96) in Agra; retail trade (NIC-68) and services not elsewhere classified (NIC-99) in Kanpur; and services not elsewhere classified including fishing (NIC-99) and personal services (NIC-96) in Puri were the major economic activities, which employed significantly the workers within the unregistered non-manufacturing informal segment (table-3). In all activities in all cities together, services not elsewhere classified (NIC-99), personal services (NIC-96), retail trade in others (NIC-68) and other manufacturing (NIC-38) were the major employment generating economic activities and each activity employed 21.31 per cent, 6.40 per cent, 5.80 per cent and to 5.60 per cent individually, of the total unregistered informal sector workers (1500) (table-4).

Table-4 : Employment Generation from Unregistered Informal Segment : 1998-99

Sl. No.	NIC code no.	Manufacturing and non-manufacturing activities	All cities	
			Workers (No.)	%
1.	20&21	Food products	70	4.67
2.	23	Cotton textiles	42	2.80
3.	28	Paper, printing and allied	49	3.27
4.	29	Leather products	44	2.93
5.	30	Rubber and plastics	45	3.00
6.	31	Chemicals	42	2.80
7.	33	Basic metals	45	3.00
8.	34	Metal products	42	2.80
9.	35	Machinery	43	2.87
10.	36	Electrical machinery	43	2.87
11.	38	Other manufacturing	84	5.60
12.	39	Repairs	65	4.33
13.	60	Wholesale trade in food and miscellaneous manufacture	40	2.67
14.	63	Wholesale trade in all types of machinery and equipment including transport and electrical equipment	40	2.67
15.	65	Retail trade in food and food products, beverages, tobacco and intoxicants	64	4.27
16.	66	Retail trade in textiles	49	3.27
17.	67	Retail trade in fuel and other household utilities and durable	54	3.60
18.	68	Retail trade in others	87	5.80
19.	69	Restaurants and hotels	52	3.47
20.	74	Storage and warehousing	44	2.93
21.	82	Real estate and business services	40	2.67
22.	96	Personal services	96	6.40
23.	99	Services not elsewhere classified	320	21.31
		Total	1500	100.00

Source : Based on the information of 1500 workers collected from all cities.

IV. Income Generation from the Unregistered Informal Manufacturing Segment

Income generation from unregistered manufacturing informal segment has been recorded in table-5. In Agra, yearly income from this segment comes to Rs.87.96 lakhs and that for per person to Rs.33.19 thousand. There were, however, inter-activity differences. It is found that largest income has been generated by other manufacturing (NIC-38) and chemicals (NIC-31) being Rs.11.10 lakhs (or 12.62 per cent) and to Rs.10.09 lakhs (or 11.47 per cent). Next, in order of importance, comes to cotton textiles (NIC-23), which accounts the income to the tune of Rs.8.15 lakhs. The remaining economic activities are, however, found to be less significant, which have generated the annual income to less than 8 per cent, of the total income of sampled workers in Agra city.

So far as the productivity per person is concerned, it is discovered that chemicals (NIC-31) has the largest average productivity of Rs.48,057 followed by cotton textiles (NIC-23) of Rs.40,740. Next, in order of importance, comes the rubber and plastics (NIC-30), which has generated annually the income of Rs.35,040 per person. It may be mentioned that the annual income per person generated by chemicals (NIC-31), cotton textiles (NIC-23) and rubber and plastics (NIC-30) are also found higher than to that of average manufacturing sector of Rs.33,192.45 in Agra city. In remaining economic activities, the average productivity has been found lower than the average productivity of manufacturing sector as a whole. It emerges, therefore, that other manufacturing (NIC-38) and chemicals (NIC-31) are the major sources of income generation. The average productivity in chemicals (NIC-31) is found to be the highest, whereas, in food products (NIC-20&21) it turns out to be the lowest in Agra city (table-5).

Table-5 : City-wise Income Generation from Unregistered Manufacturing Informal Segment : 1998-99

Sl. No.	NIC code no.	Manufacturing products	Cities											
			Agra			Kanpur			Puri			Total		
			Yearly total income (Rs.)	%	Annual average income (Rs.)	Yearly total income (Rs.)	%	Annual average income (Rs.)	Yearly total income (Rs.)	%	Annual average income (Rs.)	Yearly total income (Rs.)	%	Annual average income (Rs.)
1.	20&21	Food products	611400	6.95	27790.92	510000	6.05	25500.00	691200	31.03	24685.68	1812600	9.32	25894.29
2.	23	Cotton textiles	814800	9.26	40740.00	801600	9.51	40080.00	64800	2.91	32400.00	1681200	8.64	40028.57
3.	28	Paper, printing and allied	654600	7.44	29754.60	777000	9.22	38850.00	208800	9.38	29828.52	1640400	8.43	33477.55
4.	29	Leather products	610800	6.94	30540.00	733200	8.70	30549.96	--	--	--	1344000	6.91	30545.45
5.	30	Rubber and plastics	700800	7.97	35040.00	792000	9.40	39600.00	103200	4.63	20640.00	1596000	8.21	35466.67
6.	31	Chemicals	1009200	11.47	48057.12	876000	10.40	43800.00	15000	0.67	15000.00	1900200	9.77	45242.86
7.	33	Basic metals	684000	7.78	29739.12	567600	6.74	28380.00	32400	1.45	16200.00	1284000	6.60	28533.33
8.	34	Metal products	661200	7.53	33060.00	656400	7.79	32820.00	64800	2.91	32400.00	1382400	7.11	32914.29
9.	35	Machinery	656400	7.46	31257.12	699600	8.30	34980.00	66000	2.96	33000.00	1422000	7.31	33069.76
10.	36	Electrical machinery	649200	7.38	30914.28	661200	7.85	33060.00	54000	2.42	27000.00	1364400	7.02	31730.23
11.	38	Other manufacturing	1110000	12.62	33636.36	811200	9.63	27039.96	402600	18.08	19171.44	2323800	11.95	27664.29
12.	39	Repairs	633600	7.20	28800.00	540000	6.41	25714.32	524400	23.56	23836.32	1698000	8.73	26123.08
		Total	8796000	100.0	39192.45	8425800	100.0	33042.35	2227200	100.0	23893.62	19449000	100.0	31675.90

Source : Based on the sample of workers surveyed in each cities.

In Kanpur, the total income from the sample of unregistered informal manufacturing segment comes to Rs.84.26 lakhs, in which the major contribution has been from the chemicals (NIC-31) of 10.40 per cent, other manufacturing (NIC-38) of 9.63 per cent, cotton textiles (NIC-23) of 9.51 per cent, rubber and plastics (NIC-30) of 9.40 pr cent and from paper, printing and allied (NIC-28) of 9.22 per cent. Other economic activities are, however, found to be of secondary importance, which have contributed the income to less than 9 per cent in total income generated by the sample of unregistered manufacturing informal segment.

The annual average income comes to Rs.33.04 thousand for the city as a whole. There are, however, inter-activity differentials. The annual average income has been found to be highest of Rs.43.80 thousand in chemicals (NIC-31) followed by Rs.40.08 thousand in cotton textiles (NIC-23). However, the income per person has been found to be lowest of Rs.25.50 thousand in food products (NIC-20&21). It is significant to note that the average productivity has been found to be higher in chemicals (NIC-31), cotton textiles (NIC-23), paper printing and allied (NIC-28), rubber and plastics (NIC-30) and machinery (NIC-35), whereas, it turns out to be lower in remaining economic activities than that of the city average of Rs.33.04 thousand. Thus, it emerges that chemicals (NIC-31) is the largest, while repairs (NIC-39) is lowest income generating activities per person. Also, average productivity has been found to be the lowest in food products (table-5).

In Puri,, total income comes to Rs.22.27 lakhs, of which, food products (NIC-20&21) accounts for the largest of 31.03 per cent, repairs(NIC-39) of 23.56 per cent and other manufacturing (NIC-38) to 18.08 per cent, whereas chemicals (NIC-31) the smallest of 0.67 per cent. Thus, food products (NIC-20&21) accounts for the largest, while chemicals (NIC-31) the smallest in the total income generated by the sample of unregistered informal manufacturing segment in the city. The average productivity of the city comes to Rs.23,693.62, which is lower than that of machinery (NIC-35) of Rs.33,000, cotton textiles (NIC-23) of Rs.32,400, metal products (NIC-34) of Rs.32,400, paper, printing and allied (NIC-28) of Rs.29,828.52, electrical machinery (NIC-36) of Rs.27,000, food products (NIC-20&21) of Rs.24,685.68, and repairs (NIC-39) of Rs.23,836.32, whereas, higher than that of rubber and plastics (NIC-30) of Rs.20,640, repairs (NIC-39) of Rs.19,171, basic metal (NIC-33) of Rs.16,200 and chemicals (NIC-31) of Rs.15,000. Thus, food products is the largest and chemicals the smallest source of income generation. Also, average productivity has been found highest in machinery, whereas, lowest in chemicals (table-5).

In all unregistered informal manufacturing activities in all cities, it is found that total income comes to Rs.194.49 lakhs, of which, the major contribution has been made by other manufacturing (NIC-38) being 11.95 per cent, chemicals (NIC-31) to 9.77 per cent and food products (NIC-20&21) to 9.32 per cent. On the other hand, basic metals (NIC-33) contributed the smallest (6.60 per cent) of the total income in all cities. The average annual productivity comes to Rs.31,675.90, which is found higher than that of the basic metal (NIC-33) of Rs.28,533.33, other manufacturing (NIC-38) of Rs.27,664.29, repairs (NIC-39) of Rs.26,123.08, and food products (NIC-20&21) of Rs.25,894.29, but lower than that of the remaining manufacturing activities, such as, chemicals (NIC-31) of Rs.45,242.86, cotton textiles (NIC-23) of Rs.40,028.57, rubber and plastics (NIC-30) of Rs.35,466.67, paper, printing and allied (NIC-28) of Rs.33,477.55, machinery (NIC-35) of Rs.33,069.76, metal products (NIC-34) of Rs.32,914.29, and electrical machinery (NIC-36) of Rs.31,730.23. It suggests that other manufacturing is the largest but basic metal is the smallest

income generating activities within the manufacturing segment. Also, annual average productivity has been found highest in chemicals, while lowest in food products (table-5).

IV.1 Unregistered Non-Manufacturing Informal Sector

Income generated from non-manufacturing segment, following the methodology discussed above, has been presented in table-6. In Agra, income from this segment comes to Rs.86.17 lakhs, of which, the contribution by real estate and business services (NIC-82) comes to 17.51 per cent, retail trade in textiles (NIC-66) 10.50 per cent, storage and warehousing (NIC-74) 9.99 per cent, wholesale trade in all types of machinery and equipment including transport and electrical equipment (NIC-63) 9.43 per cent, services not elsewhere classified (NIC-99) 8.89 per cent, retail trade in fuel and other household utilities and durables (NIC-67) 8.84 per cent and from wholesale trade in food and miscellaneous manufacturers (NIC-60) to 8.21 per cent. However, the contribution by restaurants and hotels (NIC-69) has been found to be the lowest (4.86 per cent). It appears that real estate and business services (NIC-82) has contributed the largest, while restaurants and hotels (NIC-69) the smallest in the total income generated by sample of unregistered informal non-manufacturing segment in the city economy.

The average productivity from the unregistered non-manufacturing informal segment in the city comes to Rs.36,666.38, which is lower than that of real estate and business services (NIC-82), retail trade in textiles (NIC-66), wholesale trade in all types of machinery and equipment including transport and electrical equipments (NIC-63), retail trade in fuel and other household utilities and durables (NIC-67) and storage and warehousing (NIC-74), whereas, higher than the remaining economic activities. Thus, real estate and business services is the largest while restaurants and hotels the smallest source of income generation. Also, average productivity has been found to be the highest in real estate and business services (NIC-82) of Rs.75,450.00, whereas, lowest in personal service (NIC-96) of Rs.21,924.96 (table-6).

The income from this segment in Kanpur city comes to Rs.93.78 lakhs, of which, the primary contribution has been made by retail trade in others (NIC-68) of 18.13 per cent and real estate and business services (NIC-68) of 14.04 per cent. The contribution by remaining economic activities has been found to be less than 10 per cent out of the total income generated by this segment. It is interesting to note that retail trade in others (NIC-68) has the largest share (18.13 per cent), while storage and warehousing (NIC-74) the smallest (5.44 per cent). The average annual productivity comes to Rs.38,277.55, which is higher than that of personal services (NIC-96), wholesale trade in all types of machinery and equipment, etc. (NIC-63), wholesale trade in food and miscellaneous manufactures (NIC-60), services not elsewhere classified (NIC-99), restaurants and hotels (NIC-69), storage and warehousing (NIC-74), whereas, lower than the remaining economic

activities. Thus, average productivity is highest in real estate and business services (NIC-82) of Rs.65,820.00, while smallest in storage and warehousing (NIC-74) of Rs.25,500.00 (table-6).

Table-6 : City-wise Income Generation from Unregistered Non-Manufacturing Informal Segment : 1998-99

Sl. No.	NIC code no.	Non-manufacturing activities	Cities											
			Agra			Kanpur			Puri			Total		
			Yearly total income (Rs.)	%	Annual average income (Rs.)	Yearly total income (Rs.)	%	Annual average income (Rs.)	Yearly total income (Rs.)	%	Annual average income (Rs.)	Yearly total income (Rs.)	%	Annual average income (Rs.)
1.	60	Wholesale trade in food and miscellaneous manufacture	707400	8.21	35370.00	651600	6.95	32580.00	–	–	–	1359000	4.77	33975.00
2.	63	Wholesale trade in all types of machinery and equipment including transport and electrical equipment	812400	9.43	40620.00	675600	7.20	33780.00	–	–	–	1488000	5.22	37200.00
3.	65	Retail trade in food and food products, beverages, tobacco and intoxicants	679200	7.88	33960.00	771600	8.21	38580.00	667200	6.36	27800.04	2118000	7.44	33093.75
4.	66	Retail trade in textiles	904800	10.50	45240.00	882000	9.40	44100.00	264000	2.52	29333.28	2050800	7.20	41653.06
5.	67	Retail trade in fuel and other household utilities and durable	762000	8.84	38100.00	890400	9.49	44520.00	468000	4.46	33428.52	2120400	7.44	39266.67
6.	68	Retail trade in others	670200	7.78	29139.13	1700400	18.13	41473.20	636000	6.06	27652.20	3006600	10.56	34556.62
7.	69	Restaurants and hotels	418800	4.86	20940.00	517200	5.52	25860.00	201000	1.92	16749.96	1137000	3.99	21885.38
8.	74	Storage and warehousing	861600	9.99	37460.88	510000	5.44	25500.00	19200	0.18	19200.00	1390800	4.88	31609.09
9.	82	Real estate and business services	1509000	17.51	75450.00	1316400	14.04	65820.00	–	–	–	2825400	9.92	70635.00
10.	96	Personal services	526200	6.11	21924.96	705600	7.52	35280.00	1141800	10.88	21957.72	2373600	8.33	24725.00
11.	99	Services not elsewhere classified	765000	8.89	30600.00	757200	8.10	31550.04	7093200	67.62	26174.16	8615400	30.25	26923.13
		Total	8616600	100.0	36866.38	9378000	100.0	38277.55	10490400	100.0	25838.42	28485000	100.0	32150.11

Source : Based on the sample of workers surveyed in each cities.

In Puri, the total income from this segment comes to Rs.104.90 lakhs. Of this, the contribution by services not elsewhere classified (NIC-99) comes to 67.62 per cent and that by personal services (NIC-96) to 10.88 per cent. The remaining economic activities have, however, contributed to less than 7 per cent in the total income generated by this segment. It is significant to note that services not elsewhere classified (NIC-99), which also includes fishing in Puri has contributed quite considerably of 67.62 per cent, while storage and warehousing (NIC-74) the lowest of 0.18 per cent. The average productivity has been found to be Rs.25,838.42 in this segment, which is found to be higher than the average productivity of restaurants and hotels (NIC-69) of Rs.16,749.96, storage and warehousing (NIC-74) of Rs.19,200.00 and personal services (NIC-96) of Rs.21,957.72. In remaining economic activities the average productivity has been found lower than the city economy. It is significant observation that average productivity in retail trade in fuel and other household utilities and durables (NIC-67) has been found highest of Rs.33,428.52, whereas, that of restaurants and hotels (NIC-69) the lowest of Rs.16,749.96 (table-6).

IV.2 Employment and Income Generation from Unregistered Informal Segment

If we consider manufacturing and non-manufacturing activities in all cities, it is found that city has generated the income of Rs.284.85 lakhs from the sample drawn from this segment, out of which services not elsewhere classified (NIC-99) has contributed the largest of 30.24 per cent and retail trade in others (NIC-68) of 10.56 per cent. However, the contribution by restaurants and hotels (NIC-69) is found to be the lowest of 3.99 per cent. Average productivity comes to Rs.32,150.11, which is lower than that of real estate and business services (NIC-82) of Rs.70,635.00, retail trade in textiles (NIC-66) of Rs.41,853.06, retail trade in fuel and other household utilities and durable (NIC-67) of Rs.39,266.67, etc. but higher than that of services not elsewhere classified (NIC-99) of Rs.26,923.13, personal services (NIC-96) of Rs.24,725.00 and restaurants and hotels (NIC-69) of Rs.21,865.38. The average productivity has been found to be highest in real estate and business services (NIC-82) of Rs.70,635.00, whereas, lowest in restaurants and hotels (NIC-69) of Rs.21,865.38. The above analysis thus tends to suggest that services not elsewhere classified (NIC-99) is the largest but restaurants and hotels (NIC-69) the smallest income generating activities. Also, average productivity has been found largest in case of real estate and business services (NIC-82) but smallest in restaurants and hotels (table-6).

A comparative statement of employment and income generation across the cities from the sample drawn from the unregistered informal sector has been portrayed in table-7. It is evident that manufacturing segment has generated the employment to 53 per cent in Agra, 51 per cent in Kanpur and to 18.80 per cent in Puri. The income generated from manufacturing segment comes to 50.52 per cent in Agra, 47.33 per cent in Kanpur and to 17.51 per cent in Puri. Similarly, employment generated by non-manufacturing segment comes to 47 per cent in Agra, 49 per cent in Kanpur and to 81.20 per cent in Puri. In terms of income generation, Agra accounts for 49.48 per cent, Kanpur 52.67 per cent and Puri to 82.49 per cent.

In all cities, employment from the manufacturing segment comes to 40.93 per cent while that from non-manufacturing to 59.07 per cent. Also, income generated by manufacturing segment comes to 40.57 per cent, while that from non-manufacturing to 59.43 per cent. It, thus, tends to suggest that manufacturing segment of unregistered informal sector is of crucial importance both in terms of employment and income generation in Agra, while non-manufacturing in Puri city. In Kanpur, manufacturing sector emerges as of vital importance in terms of employment generation, while non-manufacturing segment in term income generation. In all cities, non-manufacturing segment is of vital significance both in terms of employment and income generation.

The annual average productivity has been found to be higher in non-manufacturing than to that of manufacturing in Agra, Kanpur, Puri and in all cities. It is significant to note that average

productivity from manufacturing of the non-manufacturing comes to 90.53 per cent in Agra, 86.32 per cent in Kanpur and to 91.70 per cent in Puri city. In all cities, average productivity from manufacturing segment comes to 98.53 per cent to that of non-manufacturing segment (table-7).

Table-7 : **Employment and Income Generation from Unregistered Informal Segment in Selected Cities : 1998-99**

Districts	Particulars	Unregistered informal sector activities		
		Manufa-cturing	Non-manufa-cturing	Total
Agra	Workers (No.)	265	235	500
	Percentage	53.00	47.00	100.00
	Annual total income (Rs.)	8796000	8616600	17412600
	Percentage	50.52	49.48	100.00
	Annual income per person (Rs.)	33192.45	36666.38	34825.20
Kanpur	Workers (No.)	255	245	500
	Percentage	51.00	49.00	100.00
	Annual total income (Rs.)	8425800	9378000	17803800
	Percentage	47.33	52.67	100.00
	Annual income per person (Rs.)	33042.35	38277.55	35607.60
Puri	Workers (No.)	94	406	500
	Percentage	18.80	81.20	100.00
	Annual total income (Rs.)	2227200	10490400	12717600
	Percentage	17.51	82.49	100.00
	Annual income per person (Rs.)	23693.62	25838.42	25435.20
Total	Workers (No.)	614	886	1500
	Percentage	40.93	59.07	100.00
	Annual total income (Rs.)	19449000	28485000	47934000
	Percentage	40.57	59.43	100.00
	Annual income per person (Rs.)	31675.90	32150.11	31956.00

IV.3 Contribution of Unregistered Informal Sector in Total Income of the City

We may now look into the contribution of sample of unregistered informal sector units/ establishments in the total income of the city economy. It is, however, a difficult task. The population figures for the cities under reference are found available only upto the year 1991. The population for the year 1999, has, thus, been projected by applying the annual average growth rate of population between 1981 to 1991. Projection procedure has also been followed for arriving the NNP per capita for the year 1999 in Agra and Kanpur. Thus, by multiplying the NNP per capita with population, we arrived at the total income of Agra and Kanpur cities. In case of Puri, while it is possible to arrive population figure for 1999, the NNP per capita has not been found readily available. Instead, per capita income arrived from the field based investigation has been used.

Thus, by multiplying NNP per capita with population for 1999, the total income of the Puri has been worked out.

Based on the above procedure, we find that the sample of unregistered informal sector units/ establishments accounts for 0.86 per cent of income in Puri, 0.49 per cent in Agra and to 0.17 per cent in Kanpur. It may be inferred that unregistered informal sector is relatively more important in Puri than that in Agra and Kanpur. In all cities, the income from unregistered segment of informal sector accounts for 0.30 per cent, of the total income in all cities. It may be pointed out that estimation of share of unregistered informal sector based on field surveys in Agra, Kanpur and Puri cities is mearly a rough approximation, which may be more accurately estimated with the help of a separate study at a project level specifically designed for this purpose.

IV.4 Contribution of Income by Unregistered Informal Sector in the Income of Household

The significance of income generated by the unregistered informal sector in the total income of household has been examined in table-8 across the manufacturing and non-manufacturing activities. In Agra we find that 52.04 per cent of income of household has been generated by the unregistered manufacturing informal sector as a whole.

We find that, of the total household income, 55.37 per cent of income in Agra, 63.59 per cent in Kanpur and to 63.09 per cent in Puri has been generated from unregistered informal sector decomposed into manufacturing and non-manufacturing activities. In all cities, 59.41 per cent of household income has been generated by the unregistered informal sector. In Agra, the largest income generating activity is the chemicals (NIC-31) within the unregistered manufacturing informal and real estate and business services (NIC-82) in the unregistered non-manufacturing informal sector. In sharp contrast to above, the smallest income generating activity is electrical machinery (NIC-36) within the unregistered informal manufacturing and retail trade in others (NIC-68) in the unregistered informal non-manufacturing sector.

In Kanpur, the largest income generating activity has been the chemicals (NIC-31) in the unregistered informal manufacturing, while retail trade in fuel and other household utilities and durable (NIC-67) within the unregistered non-manufacturing informal segment. On the other hand, the smallest income generating activity has been found to be the electrical machinery (NIC-36) within the manufacturing, while, services not elsewhere classified (NIC-99) within the non-manufacturing segment. Similarly, in Puri, the largest income generating activities are electrical machinery (NIC-36) and chemicals (NIC-31) within the unregistered informal manufacturing, while storage and warehousing (NIC-74) within the unregistered informal non-manufacturing sector. On the other hand, the smallest income generating activity has been found to be the basic metals (NIC-

33) in the unregistered informal manufacturing, while retail trade in others (NIC-68) within the unregistered informal non-manufacturing segment.

Table-8 : **Contribution of Income by Unregistered Informal Sector Activities in the Total Income of Households in Selected Cities : 1998-99**

Sl. No.	NIC code no	Manufacturing and non-manufacturing activities	Annual income from unregistered informal sector activities as a % of total income of household			
			Agra	Kanpur	Puri	Total
1.	20&21	Food products	53.55	69.67	77.84	65.63
2.	23	Cotton textiles	58.68	64.74	79.41	62.10
3.	28	Paper, printing and allied	46.54	66.69	81.88	34.56
4.	29	Leather products	55.48	60.83	--	58.28
5.	30	Rubber and plastics	44.03	67.14	47.51	53.95
6.	31	Chemicals	59.46	76.04	100.00	66.37
7.	33	Basic metals	55.83	75.72	52.94	62.94
8.	34	Metal products	45.33	57.11	87.80	52.25
9.	35	Machinery	49.28	54.22	64.71	52.21
10.	36	Electrical machinery	41.18	53.16	100.00	47.42
11.	38	Other manufacturing	56.14	59.40	54.73	57.07
12.	39	Repairs	59.23	55.42	79.53	62.78
		Sub-Total	52.04	62.58	70.65	56.14
13.	60	Wholesale trade in food and miscellaneous manufactures	61.76	61.36	--	61.57
14.	63	Wholesale trade in all types of machinery and equipment including transport and electrical equipment	58.61	62.63	--	60.37
15.	65	Retail trade in food and food products, beverages, tobacco and intoxicants	58.77	58.91	83.55	64.60
16.	66	Retail trade in textiles	63.74	67.87	88.35	67.95
17.	67	Retail trade in fuel and other household utilities and durable	69.47	72.92	93.41	75.19
18.	68	Retail trade in others	41.54	71.35	57.11	58.84
19.	69	Restaurants and hotels	45.80	60.31	63.57	54.41
20.	74	Storage and warehousing	52.87	59.52	100.00	55.51
21.	82	Real estate and business services	73.31	67.60	--	70.56
22.	96	Personal services	56.93	71.01	63.74	63.96
23.	99	Services not elsewhere classified	62.12	49.65	58.30	57.75
		Sub-Total	59.16	64.53	61.68	61.77
		Total	55.37	63.59	63.09	59.41

Source : Field Surveys carried out for 1500 workers in cities of Agra, Kanpur and Puri.

In all cities, chemicals emerges as largest income generating within the unregistered informal manufacturing, while retail trade in fuel and other household utilities and durables (NIC-67) within the unregistered informal non-manufacturing. In sharp contrast to above, paper, printing and allied (NIC-28) in the unregistered manufacturing and restaurants and hotels (NIC-69) in the unregistered non-manufacturing segment emerged as the smallest income generating economic activities.

V. Poverty Profile of Informal Sector Workers

We may now examine the poverty profile of informal sector workers. It may be, however, mentioned that the exact norms identifying the households below or above the poverty line, have not been researched so far. The most commonly used per capita monthly consumption expenditure has attracted much controversy[25] among the economists. This is because the monthly per capita consumption expenditure is derived from calorie intake, which, in turn, is determined by various quantifiable and non-quantifiable factors, such as, age, sex, activity levels, weight, season and so on. Since it is not possible to compute a composite index of calorie requirement, determining the consumption expenditure, the studies on poverty have become less useful on operational grounds. Such a method, though criticised severely, helps in identifying the poor, although not as precisely as one would wish.

It may be noted that Draft Ninth Five Year Plan published by Planning Commission gives the cut-off point in terms of per capita income for delineating persons below or above the poverty line. It has been noted that during 1993-94, in urban areas persons having per capita income of Rs.258.70 or more are defined above the poverty line. By implication, persons having below monthly per capita income of Rs.258.70 are defined below the poverty line. To arrive the poverty estimates for the year 1999, the above figure (Rs.258.70) has been readjusted by applying the consumer price index available for urban non-manual employees at 1984-85 base.[26]

Based on above procedure, the persons living below or above the poverty line in 1999 have been identified in Agra, Kanpur and Puri cities. In Agra, households having monthly per capita income of Rs.385.68 or more have been defined as above the poverty line. In Kanpur, households with monthly per capita income of Rs.373.17 or more have been termed as above the poverty line. Similarly, in Puri, households having monthly per capita income of Rs.430.91 or more have been deemed as above the poverty line. By implication, households having below monthly per capita income of Rs.385.68, Rs.373.17 and to Rs.430.91 in Agra, Kanpur and Puri have been deemed as below the poverty line. Based on the cut-off points, per-se, we find that in Agra, 256 households (or 51.20 per cent) are living below the poverty line. In slum, 77.50 per cent, in chawl 64.97 per cent and in tenament, apartment and other types of housing, 40.59 per cent of households have been deemed as below the poverty line. In sharp contrast to above, 244 households (or 48.80 per cent) are deemed above the poverty line. It suggests that as we move from inferior type of dwelling to superior ones, the households living below the poverty line declines, whereas, non-poor households tend to increase.

VI. Living Conditions of Unregistered Informal Sector Workers

We may now examine the living conditions of unregistered informal sector workers. Housing characteristics of unregistered informal sector workers in Agra, Kanpur and Puri cities show that about 60.40 per cent in Agra, 69.40 per cent in Kanpur, 88.20 per cent in Puri and to 72.67 per cent in all cities have owned ancestral houses. Households having self-constructed houses come to 11.20 per cent in Agra, 3 per cent in Kanpur, 1.40 per cent in Puri and to 5.20 per cent in all cities. Similarly, households having rented houses come to 25 per cent in Agra, 26.60 per cent in Kanpur, 10 per cent in Puri and to 20.53 per cent in all cities (table-9).

Table-9: **Ownership and Structure of Houses for Informal Sector Households: 1999**

Ownership/ structure of houses	Households in cities							
	Agra		Kanpur		Puri		Total	
	No.	%	No.	%	No.	%	No.	%
A. Ownership of house								
Rented	125	25.00	133	26.60	50	10.00	308	20.53
Self-constructed	56	11.20	15	3.00	7	1.40	78	5.20
Ancestral	302	60.40	347	69.40	441	88.20	1090	72.67
Others	17	3.40	5	1.00	2	0.40	24	1.60
Total	500	100.00	500	100.00	500	100.00	1500	100.00
B. Structure of house								
Kutcha	40	8.00	5	1.00	83	16.60	128	8.53
Semi-kutcha	84	16.80	72	14.40	156	31.20	312	20.80
Pucca	376	75.20	423	84.60	261	52.20	1060	70.67
Total	500	100.00	500	100.00	500	100.00	1500	100.00

Source : Based on the information collected from 1500 workers in Agra, Kanpur and Puri cities.

As far the structure of houses, we find that 75.20 per cent of households in Agra, 84.60 per cent in Kanpur, 52.20 per cent in Puri and to 70.67 per cent in all cities have the owned pucca houses. Households living in kutcha houses are found to be 8 per cent in Agra, 1 per cent in Kanpur, 16.60 per cent in Puri and to 8.53 per cent in all cities. Similarly, households residing in semi-kutcha houses are found to be 16.80 per cent in Agra, 14.40 per cent in Kanpur, 31.20 per cent in Puri and to 20.80 per cent in all cities taken together. Thus, a majority of households has owned pucca ancestral houses. The average build up area of a house is worked out to be 141.08 sq. ft. in Agra, 117.05 sq. ft. in Kanpur, 76.20 sq. ft. in Puri and to 115.31 sq. ft. in all cities total.

VI.1 Nature of Dwellings of Unregistered Informal Sector Households

Table-10 classifies the houses by the kinds of locations, such as, (i) slum, (ii) chawl, (iii) flat in housing society, (iv) independent tenament, and (v) others, where households are residing. A close examination of table-10 tends to suggest that in Agra, a majority of households (46.40 per cent) has been residing in independent tenament. Households living in slum comes to 8 per cent, chawl 31.60 per cent, flat in housing society 10.60 per cent and in others to 3.40 per cent. In Kanpur, however, this is not found applicable. A majority of households is found residing in chawl (53.60 per cent), followed by independent tenament (37.80 per cent). Households living in slum, flat in housing society and other types of housing have been recorded to be 1 per cent, 6.80 per cent and to 0.80 per cent respectively. In Puri, a majority of households has been found living in chawl (53.40 per cent); 28.40 per cent in independent tenament; 16.60 per cent in slum; 1.20 per cent in flat in housing society; and to 0.40 per cent in other types of housing. Thus, a majority of households in Agra lived in independent tenament, while in Kanpur and Puri in chawls. In all cities, a majority of households (46.21 per cent) lived in chawls, followed by independent tenament (37.53 per cent). Households living in slum come to 8.53 per cent; flat in housing society 6.20 per cent; and in other types of housing to 1.53 per cent. It seems to suggest that chawl is the main residential location for the unregistered informal sector workers (table-10).

Table-10 : Kinds of Locations of Housing Occupied by Informal Sector Households: 1999

Kinds of housing	Workers in cities							
	Agra		Kanpur		Puri		Total	
	No.	%	No.	%	No.	%	No.	%
Slum	40	8.00	5	1.00	83	16.60	128	8.53
Chawl	158	31.60	268	53.60	267	53.40	693	46.21
Flat in housing society	53	10.60	34	6.80	6	1.20	93	6.20
Independent tenament	232	46.40	189	37.80	142	28.40	563	37.53
Others	17	3.40	4	0.80	2	0.40	23	1.53
Total	500	100.00	500	100.00	500	100.00	1500	100.00

Source : Based on the information collected from 1500 workers in Agra, Kanpur and Puri cities.

VI.2 Availability of Rooms, Separate Kitchen and Latrine Facilities

As far as the availability of rooms, a majority of households in Agra (38.60 per cent) is found living in two room houses. Households living in one room, three rooms, and four and more rooms houses are reported to be 30.60 per cent, 19.60 per cent and to 11.20 per cent respectively. Like Agra, a majority of households in Kanpur (57.20 per cent) is found living in two room accommodation. Households living in one room, three rooms and to four and more rooms houses

are reported to be 28 per cent, 12.20 per cent and to 2.60 per cent respectively. In sharp contrast to above, a majority of households (48.20 per cent) in Puri is found living in one room accommodation. Households living in two rooms, three room and four and more rooms accommodation have been reported to be 41.20 per cent, 7.20 per cent and to 3.40 per cent respectively. Thus, two rooms accommodation in Agra and Kanpur and one room accommodation in Puri have been underlined as preponderant characteristic of housing for the unregistered informal sector households (table-11).

Table-11: **Availability of Rooms and Separate Kitchen Facility for the Unregistered Informal Sector Households: 1999**

Particulars	Households							
	Agra		Kanpur		Puri		Total	
	No.	%	No.	%	No.	%	No.	%
A. Availability of rooms								
One	153	30.60	140	28.00	241	48.20	534	35.60
Two	193	38.60	286	57.20	206	41.20	685	45.67
Three	98	19.60	61	12.20	36	7.20	195	13.00
Four and above	56	11.20	13	2.60	17	3.40	86	5.73
Total	500	100.00	500	100.00	500	100.00	1500	100.00
B. Separate kitchen facility								
Yes	159	31.80	183	36.60	102	20.40	444	29.60
No	341	68.20	317	63.40	398	79.60	1056	70.40
Total	500	100.00	500	100.00	500	100.00	1500	100.00
C. Latrine facility								
Open field	83	16.60	44	8.80	252	50.40	374	25.27
Service	136	27.20	140	28.00	49	9.80	325	21.67
Flush system	281	56.20	316	63.20	199	39.80	796	53.06
Total	500	100.00	500	100.00	500	100.00	1500	100.00

Source : Based on the information collected from 1500 workers in Agra, Kanpur and Puri cities.

In all cities, a majority of households (45.67 per cent) is found living in two room houses. Households living in one room, three rooms and four and more rooms have been reported to be 35.60 per cent, 13 per cent and to 5.73 per cent respectively. Thus, two rooms accommodation have been described as the major dwellings for the households in unregistered informal sector in all cities under consideration (table-11).

Also, 68.20 per cent in Agra, 63.40 per cent in Kanpur, 79.60 per cent in Puri and to 70.40 per cent of houses in all cities do not have separate kitchen facility. However, 31.80 per cent of houses in Agra, 36.60 per cent in Kanpur, 20.40 per cent in Puri and to 29.60 per cent in all cities are found having separate kitchen facility. Thus, a majority of houses does not consist of separate kitchen facility, where unregistered informal sector households have been residing (table-11). As far as the latrine facility, a majority of households (56.20 per cent) in Agra, 63.20 per cent in Kanpur are found having flush system, while 50.40 per cent of households in Puri are found using open field for this purpose. In all cities, 53.06 per cent of households are found using flush system. Households using open field and service facility for this purpose have been reported to be 25.27 per cent and to 21.67 per cent respectively. It is, therefore, satisfying to note that flush system has commonly been used for this purpose (table-11).

VII. Consumption Pattern of Unregistered Informal Sector Workers

We may now examine the consumption pattern of unregistered informal sector workers. Traditionally, the approach in this area has been to test the empirical validity of Engel's law, which fundamentally implies that after the subsistence barrier is overcome, the expenditure on food articles declines in percentage terms with the increase of family income. It implies less than unity elasticity for food articles. An extended version of Engel's law also suggests that commodities like rent, fuel, light and clothing have near the unit elasticity, whereas, luxurious items like recreational activities and education have more than unit elasticity. It may be mentioned that this law despite being century old has not been challenged and researchers have not 'discovered more enduring or more complex universal laws relating to income elasticities than those put forward by Engel.'[27] The law by Engel has been tested empirically by using the total expenditure of different items. The law implicitly assumes that Engel's curves are homogeneous of degree one with respect of household size and total expenditure of the family. We, in addition to total household expenditure, have also included the size of household as independent variable. Thus, Engel's curve, based on the above description, has been fitted by using the following equations:

Linear form : $Y_1 = a_1+b_1x_1+b_2x_2+u_1$

Log linear form : $\text{Log } y_1 = a_1+b_1\log x_1+b_2 \log x_2+u_1$

Where, Y_1 is the household expenditure on the i^{th} item, x_1 the total household expenditure, x_2 the size of household and u_1 is the error term, a_1, b_1, and b_2 are the parameters to be estimated. Further, in the linear model, b_1 is an estimate of marginal propensity to consume, whereas, b_2 measures the marginal increase in the consumption of i^{th} item due to an addition of the family size. In the log linear model, b_1 and b_2 are the estimates of elasticity of expenditure and family size respectively.

Tables-12, 13 and 14 give the marginal propensities to consume (MPC) for 12 commodity groups for unregistered informal sector workers in Agra, Kanpur and Puri cities.[28] In Agra, all 12 regression equations are found to be significant statistically. The analysis of MPC reveals that, out of given increase in consumption, 3 per cent are spent on foodgrains, 2 per cent on oil, 5 per cent each on milk and milk products and vegetables and to 10 per cent on other food items. Thus, MPC on food items is as high as 0.25. Within the non-food items, out of given increase in consumption, 10 per cent is spent each on clothing and children's education, 1 per cent on fuel items, 2 per cent on entertainment, 8 per cent on city transport and to 12 per cent on medical treatment. Thus, out of given increase in consumption, as much as 30 per cent are spent on other non-food items. Of the given increase in consumption, 0.73 per cent are spent on non-food items. Thus, MPC for non-food items comes to 0.73.

Table-12 : **Estimation of Marginal Propensities to Consume for Unregistered Informal Sector Workers in Agra : 1999**

Commodities	a_1	b_1	b_2	R^2= Values	F= Statistics
1. Foodgrains	85.10	0.03* (8.51)	79.64* (26.36)	0.71*	580.24
2. Oil	13.39	0.02* (15.83)	5.48* (4.81)	0.46*	201.89
3. Milk and milk products	43.27	0.05* (20.52)	8.07* (4.01)	0.57*	314.16
4. Vegetables	37.84	0.05* (20.95)	3.35** (1.84)	0.55*	289.67
5. Other food items	-29.25	0.10* (14.94)	-4.26 (-0.75)	0.36*	133.31
6. Clothing	-80.35	0.10* (16.75)	7.44*** (1.45)	0.44*	186.21
7. Fuel items	93.14	0.01* (8.93)	6.26* (6.04)	0.30*	101.57
8. Entertainment	40.99	0.02* (10.63)	-0.20 (-0.16)	0.23*	70.79
9. Children's education	-98.32	0.10* (11.82)	3.58 (0.50)	0.27*	87.66
10. Medical expenses	-59.43	0.12* (12.31)	-16.42** (-2.04)	0.26*	83.27
11. City transport	-9.32	0.08* (19.28)	-16.68* (-4.98)	0.45*	193.91
12. Other non-food items	-39.21	0.30* (31.77)	-72.89* (-8.41)	0.68*	527.52

Note : Figures under brackets show "t" values.
* Significant at 1 per cent level.
** Significant at 5 per cent level.
*** Significant at 10 per cent level.

Further, an addition in family size implies the increase in foodgrains, oils, milk and milk products, vegetables among the food items and in clothing, fuel items and children's education among the non-food items. However, an increase in family size also implied the cut in expenditure on other food items, entertainment, medical treatment, city transport and other non-food items. The MPC in case of these items has been found to be negative. Specifically, axe falls heavily upon other non-food items, which shows a high negative MPC (table-12).

So far as consumption pattern of unregistered informal sector workers in Kanpur, all 12 regression equations are found significant statistically. The analysis of MPC shows that, out of given increase in consumption, 5 per cent are spent each on foodgrains, milk and milk products, and vegetables, 3 per cent on oil and to 7 per cent on other food items. Thus, 0.25 per cent of consumer expenditure is spent on food items. MPC for food items, thus, comes to 0.25. Among the non-food items, out of given increase of consumption, 8 per cent are spent on clothing, 1 per cent each on fuel and entertainment, 23 per cent on children's education, 4 per cent on medical treatment, 8 per cent on city transport and to 25 per cent on other non-food items. Out of given increase in consumption, 70 per cent are spent on non-food items. Thus, MPC for non-food items comes to 0.70. Further, a close examination of MPC with regard to family size implies the increase in consumption of foodgrains, oil, milk and milk products, vegetables, other food items among the food products, while on clothing, fuel and entertainment among the non-food items. However, an increase in family size implied the cut in expenditure on children's education, medical treatment, city transport and other non-food items. Specifically, axe falls heavily on other non-food items, which shows the high negative MPC (table-13).

In Puri, all 12 regression equations are found statistically significant. A close examination of MPC reveals that, out of given increase in consumption, 12 per cent are spent on foodgrains, 1 per cent on oil, 3 per cent on vegetables, 4 per cent on milk and milk products and to 8 per cent on other food items. Thus, 28 per cent are spent on food items as MPC for all food items comes to 0.28. Similarly, out of given increase in consumption, 4 per cent are spent each on fuel and city transport, 1 per cent on entertainment, 5 per cent on children's education, 21 per cent on medical treatment and to 15 per cent on other non-food items. Thus, 70 per cent are spent on non-food items as MPC for all non-food items comes to 0.70.

Table-13 : **Estimation of Marginal Propensities to Consume for Unregistered Informal Sector Workers in Kanpur : 1999**

Commodities	a_1	b_1	b_2	R^2= Values	F= Statistics
1. Foodgrains	2.16	0.05* (11.82)	73.05* (20.42)	0.69*	523.06
2. Oil	-5.98	0.03* (20.83)	1.64**** (1.19)	0.57*	311.51
3. Milk and milk products	63.58	0.05* (15.84)	5.32* (1.75)	0.44*	184.64
4. Vegetables	27.07	0.05* (24.78)	0.91 (0.50)	0.64*	417.78
5. Other food items	-17.28	0.07* (13.68)	16.27* (3.41)	0.41*	163.31
6. Clothing	-10.02	0.08* (16.10)	1.08 (0.24)	0.43*	177.28
7. Fuel items	96.45	0.01* (5.30)	7.07* (4.57)	0.17*	48.13
8. Entertainment	48.96	0.01* (6.92)	3.56** (2.05)	0.16*	44.76
9. Children's education	-271.27	0.23* (19.23)	-31.26* (-2.79)	0.48*	216.92
10. Medical expenses	51.05	0.04* (8.17)	-8.87** (-1.91)	0.13*	35.11
11. City transport	-68.88	0.08* (21.74)	-3.26**** (-0.92)	0.56*	299.09
12. Other non-food items	103.65	0.25* (32.44)	-66.04* (-7.79)	0.71*	575.34

Note : Figures under brackets show "t" values.
* Significant at 1 per cent level.
** Significant at 5 per cent level.
**** Significant at 20 per cent level.

Further, an increase in family size implies the increase in expenditure on food items, oil and other food items among the food articles, while on fuel items and entertainment among the non-food items. However, axe heavily falls on certain items, such as, milk and product, clothing, children's education, medical expenses, city transport and other non-food items, in which cases expenditure is considerably curtailed. The MPC for above items has been found to be highly negative (table-14).

Table-14 : **Estimation of Marginal Propensities to Consume for Unregistered Informal Sector Workers in Puri : 1999**

Commodities	a_1	b_1	b_2	R^2= Values	F= Statistics
1. Foodgrains	-51.06	0.12* (10.15)	78.44* (10.52)	0.50*	223.50
2. Oil	27.55	0.01* (6.46)	3.52* (2.81)	0.18*	49.06
3. Milk and milk products	48.49	0.04* (9.19)	-4.43*** (-1.50)	0.18*	49.06
4. Vegetables	44.35	0.03* (9.25)	0.003 (0.001)	0.21*	59.41
5. Other food items	151.33	0.08* (8.24)	5.80**** (0.91)	0.19*	52.43
6. Clothing	-236.25	0.20* (15.29)	-12.25*** (-1.42)	0.40*	149.00
7. Fuel items	104.57	0.04* (8.78)	3.33**** (1.15)	0.22*	63.04
8. Entertainment	-15.98	0.01* (7.50)	1.31** (1.88)	0.19*	52.43
9. Children's education	8.13	0.05* (8.08)	-8.62** (-2.01)	0.14*	36.38
10. Medical expenses	-272.78	0.21* (12.08)	-33.57* (-2.78)	0.27*	82.66
11. City transport	7.11	0.04* (11.50)	-6.39* (-2.78)	0.25*	74.50
12. Other non-food items	152.08	0.15* (13.03)	-28.33* (-3.37)	0.29*	91.29

Note : Figures under brackets show "t" values.
* Significant at 1 per cent level.
** Significant at 5 per cent level.
*** Significant at 10 per cent level.
**** Significant at 20 per cent level.

The results of above analysis based on linear models in Agra, Kanpur and Puri cities have been classified into four main commodity groupings, such as, (i) commodities whose MPC increased; (ii) commodities whose MPC remained unchanged; (iii) commodities whose MPC declined; and (iv) commodities whose MPC fluctuated. Accordingly, (i) foodgrains and (ii) fuels come under the first category; (i) milk and milk products, (ii) vegetables, (iii) entertainment, (iv) city transport, and (v) other non-food items under the third; and (i) oil, (ii) clothing, (iii) children's education, and (iv) medical expenses under the fourth category. However, commodities under the second category were found to be non-existent.

Further, an increase in family size led to an increase of expenditure on (i) foodgrains, (ii) oil, (iii) milk and milk products, (iv) vegetables, (v) clothing, and (vi) fuel in Agra; (i) foodgrains, (ii) oil, (iii) milk and milk products, (iv) other food items, (v) fuel, and (vi) entertainment in Kanpur; and (i) foodgrains, (ii) oil, (iii) other food items, (iv) fuel, and (v) entertainment in Puri city. An increase in

family size implied the curtailment of expenditure on (i) other food items, (ii) entertainment, (iii) medical expenses, (iv) city transport, and (v) other non-food items in Agra; (i) children's education, (ii) medical expenses, (iii) city transport, and (iv) other non-food items in Kanpur; and in (i) milk and milk products, (ii) clothing, (iii) children's education, (iv) medical expenses, (v) city transport, and (vi) other non-food items in Puri city. The former may be the outcome of dis-economies of scale, whereas later due to economies of scale.

Further insights into the consumption pattern for unregistered informal sector workers have been obtained from the log linear relationship. It has been presented in table-15 for Agra, 16 for Kanpur and in table-17 for Puri. In Agra we find that expenditure elasticity for (i) foodgrains, (ii) oil, (iii) milk and milk products, (iv) vegetables, (v) other food items, (vi) fuels, (vii) entertainment, and (viii) children's education is less than or close to unity. For such items as (i) clothing, (ii) medical expenses, (iii) city transport, and (iv) other non-food items, expenditure elasticity is found to be more than unity. Based on above, the former commodities may be considered as essential commodities, whereas, later the non-essential or luxurious commodities (table-15).

Table-15: **Estimation of Elasticities for Unregistered Informal Sector Workers in Agra: 1999**

Commodities	a_1	b_1	b_2	R^2= Values	F= Statistics
1. Foodgrains	3.57	0.21* (8.23)	0.67* (24.46)	0.70*	553.00
2. Oil	-1.81	0.74* (15.63)	0.28* (5.42)	0.49*	227.71
3. Milk and milk products	-0.76	0.74* (17.51)	0.14* (3.18)	0.50*	237.00
4. Vegetables	-1.21	0.77* (17.65)	0.16* (3.34)	0.51*	246.67
5. Other food items	-2.07	0.92* (11.53)	0.05 (0.60)	0.28*	85.92
6. Clothing	-3.96	1.19* (19.90)	-0.06**** (-0.97)	0.51*	246.67
7. Fuel items	1.61	0.39* (9.49)	0.15* (3.48)	0.27*	87.66
8. Entertainment	-0.22	0.58* (10.36)	-0.01 (-0.23)	0.22*	66.85
9. Children's education	-2.46	0.94* (10.15)	0.12**** (1.22)	0.24*	74.84
10. Medical expenses	-6.16	1.43* (13.29)	-0.22* (-1.87)	0.30*	101.57
11. City transport	-3.30	1.07* (14.75)	-0.25* (-3.17)	0.33*	116.73
12. Other non-food items	-5.90	1.61* (26.98)	-0.48* (-7.50)	0.62*	386.68

Note : Figures under brackets show "t" values.
* Significant at 1 per cent level.
**** Significant at 20 per cent level.

In Kanpur, expenditure elasticity for (i) foodgrains, (ii) oil, (iii) milk and milk products, (iv) vegetables, (v) other food items, (vi) fuel, (vii) entertainment, and (viii) medical expenses has been found to be either less than unity or close to unity. On the other hand, expenditure elasticity for (i) clothing, (ii) children's education, (iii) city transport, and (iv) other non-food items has been found to be more than unity. Thus, the former commodity groups may be treated as essential while the later group of commodities as non-essential or luxurious commodities (table-16).

Table-16 : **Estimation of Elasticities for Unregistered Informal Sector Workers in Kanpur: 1999**

Commodities	a_1	b_1	b_2	R^2= Values	F= Statistics
1. Foodgrains	1.78	0.42* (13.75)	0.66* (19.73)	0.73*	635.37
2. Oil	-2.26	0.80* (17.53)	0.24* *4,78)	0.56*	299.09
3. Milk and milk products	-1.07	0.80* (15.41)	0.06**** (1.01)	0.44*	184.64
4. Vegetables	-1.61	0.82* (18.40)	0.11** (2.21)	0.54*	275.87
5. Other food items	0.07	0.62* (12.08)	0.34* (5.93)	0.44*	184.64
6. Clothing	-2.92	1.05* (17.68)	-0.09*** (-1.39)	0.47*	208.40
7. Fuel items	1.03	0.44* (7.65)	0.22* (3.43)	0.23*	70.19
8. Entertainment	0.35	0.50* (9.33)	0.14** (2.35)	0.26*	82.57
9. Children's education	-7.39	1.67* (16.99)	-0.35* (-3.21)	0.42*	170.17
10. Medical expenses	-2.51	0.92* (10.82)	0.16** (-1.71)	0.23*	70.19
11. City transport	-4.24	1.16* (17.75)	0.00 (0.00)	0.49*	225.78
12. Other non-food items	-3.08	1.26* (29.90)	-0.35* (-7.68)	0.68*	499.38

Note : Figures under brackets show "t" values.
* Significant at 1 per cent level.
** Significant at 5 per cent level.
*** Significant at 10 per cent level.
**** Significant at 20 per cent level.

In Puri, expenditure elasticity for (i) foodgrains, (ii) oil, (iii) milk and milk products, (iv) vegetables, (v) other food items, (vi) fuel, (vii) entertainment, and (viii) city transport has been found to be either to less than unity or close to unity. On the other hand, expenditure elasticity for such items as (i) clothing, (ii) children's education, (iii) medical expenses, and (iv) other non-food

item has been found to be more than unity. Thus, former group of commodities may be considered as essential commodities, while later as the non-essential or luxurious commodities (table-17).

Table-17 : Estimation of Elasticities for Unregistered Informal Sector Workers in Puri: 1999

Commodities	a_1	b_1	b_2	R^2= Values	F= Statistics
1. Foodgrains	1.18	0.55* (10.71)	0.54* (10.20)	0.51*	232.62
2. Oil	1.08	0.35* (5.32)	0.27* (3.95)	0.17*	45.78
3. Milk and milk products	-0.69	0.73* (8.72)	-0.16** (-1.86)	0.16*	42.57
4. Vegetables	0.07	0.62* (7.66)	-0.00 (0.00)	0.15*	39.44
5. Other food items	0.59	0.65* (7.83)	0.10**** (1.21)	0.18*	49.06
6. Clothing	-5.64	1.45* (13.18)	-0.31* (-2.75)	0.31*	100.41
7. Fuel items	0.30	0.62* (9.63)	0.08**** (1.16)	0.25*	74.50
8. Entertainment	-0.68	0.55* (7.75)	0.01 (0.14)	0.16*	42.57
9. Children's education	-2.82	1.01* (7.76)	-0.46* (-3.42)	0.12*	30.48
10. Medical expenses	-8.30	1.66* (11.77)	-0.15**** (-1.01)	0.28*	86.92
11. City transport	-2.32	0.90* (10.21)	-0.28* (-3.10)	0.20*	55.88
12. Other non-food items	-1.54	1.61* (13.55)	-6.25* (-3.23)	0.31*	100.41

Note : Figures under brackets show "t" values.
* Significant at 1 per cent level.
** Significant at 5 per cent level.
**** Significant at 20 per cent level.

It may be inferred that except those items having expenditure elasticity to more than unity, all items may be considered as essential commodities in the budget of worker's household. It is interesting finding that children's education, which was essential item for worker's household in Agra, turned out to be the luxurious item in Kanpur and Puri. Similarly, medical expenses, which was essential item for worker's household in Kanpur turned out to be the non-essential or luxurious item in Agra and Puri. Also, city transport, which was essential item in Puri turned out to be the non-essential or luxurious item in Kanpur and Agra. The reliability of such results is doubtful. This may either be due to the under or over-statement of information on consumption pattern of workers or the estimation errors. Disregarding these items, we find that expenditure of worker's household is distributed between the food and non-food items.

VIII. Need for Rehabilitation Programme

Rehabilitation programme has now been increasingly recognized as a prerequisite for low productive unorganized informal sector workers. As it is, it emerges on account of modernization of industries by adopting advanced technology and labour management relations, which thereby causes the displacement of workers and creates socio-economic tension. Such a displaced surplus and under-employed workers are required to be gainfully employed through various schemes and programmes. Rehabilitation programme in this respect receives a critical importance. There may be various kinds of rehabilitation, which alternatively depends on the desirability of workers, infrastructural facility and skills and training available to the workers for this purpose. In the light of this, table-18 records 63 presently carried out economic activities along with workers per unit, proposed economic activities, requirement of per worker fixed capital, working capital, total productive capital and workers per unit in Agra city. We find that, out of 63 on-going economic activities, 16 economic activities have relatively higher employment generating potential of 3 or to more persons per unit in the unregistered informal segment. Such activities are : (i) shoe selling, (ii) auto repairing, (iii) soap manufacturing, (iv) petha making, (v) tailoring, (vi) photography, (vii) teaching, (viii) bag making, (ix) inlay work, (x) embroidery, (xi) shoe making, (xii) wood craft making, (xiii) coat stitching, (xiv) drumming, (xv) brush making, and (xvi) tube-light selling. Each economic activity has generally employed to 3 or more workers per unit. Unregistered informal workers in activities per-se expressed their willingness to start the activity on the similar direction.

It may be noted that in Agra, the average requirement of fixed capital comes to Rs.24,805.76, working capital to Rs.11,884.89 and total productive capital to Rs.36,690.65 per worker to start a unregistered informal sector unit/establishment. It would imply that under the rehabilitation programme there needs to be a provision of Rs.36,690.65 per worker and 3 persons per unit to start a unit/establishment with a view to enhance the earnings of those who are wishing to be engaged in the unregistered informal sector segment. Such a rehabilitation programme is required to be selective and discriminatory, which may stress upon the employment intensive-cum-capital saving economic activities, such as, (i) juice selling, (ii) chhapai work, (iii) brush making, (iv) stitching work, (v) wood craft making, (vi) soda making, (vii) embroidery work, (viii) welding work, (ix) metal product, (x) tabala making, (xi) printing press, (xii) teaching, (xiii) bag making, (xiv) inlay work, (xv) hotel and restaurant, (xvi) confectionery, (xvii) shoe manufacturing, (xviii) shoe box making, (xix) soap trading, and (xx) tailoring in the city economy.

Table-18: **Workers Per Unit in Present and Per Worker Requirement of Capital and Employment per Unit in Proposed Unregistered Informal Economic Activities in Agra City : 1999**

Present economic activity	Workers per unit	Proposed economic activity	Require-ment of Workers per unit	Requirement of Per worker fixed capital (Rs.)	Requirement of Per worker working capital (Rs.)	Requirement of Per worker total productive capital (Rs.)
Tea stall	1	General stores	2	33354.43	23797.47	57151.90
Cooking work	1	Hotel and restaurants	5	15111.11	7666.67	22777.78
Confectionery	1	Confectionery	4	11200.00	6600.00	17800.00
Cloth selling	1	Trading of textiles	3	33934.43	20081.96	54016.39
Shoes fitting	1	Shoes manufacturing	6	16420.12	7248.52	23668.64
Shoe sales	3	Shoe trading	5	42916.67	30000.00	72916.67
Shoe box making	2	Shoe box making	5	12250.00	4000.00	16250.00
Auto parts repairing	2	Auto parts repairing	3	30000.00	12058.82	42058.82
Auto repairing	3	Auto repairing	3	27619.04	42058.82	69677.86
Auto driving	1	Auto driving	1	119444.44	3888.88	123333.32
Dairy work	2	Dairy work	2	40769.23	13846.15	54615.38
Selling of misc. products at shop	2	Rubber, plastic and fibre selling	3	31111.11	20000.00	51111.11
Kharad work	2	Kharad work	4	24642.86	8214.29	32857.15
Bakery	2	Bakery making	4	16911.76	7205.88	24117.64
Soap manufacturing	4	Soap trading & manufacturing	6	9091.91	9090.91	18181.82
Petha making	5	Petha making work	7	83333.33	33333.33	116666.67
Hair dressing	2	Hair dressing	3	16290.32	10000.00	26290.32
Tailoring	3	Tailoring	5	13376.62	5389.61	18766.23
Metal furniture making	2	Metal product	4	14750.00	9625.00	24375.00
Selling of metal products	1	Metal pot selling	2	37500.00	17500.00	55000.00
Tabala making	2	Tabala making	4	12500.00	5000.00	17500.00
Electric product selling & repairing	1	Electric repairing and trading	2	28035.57	10535.71	38571.28
Electronic products selling	2	Electronic products selling	3	30000.00	10400.00	40400.00
Press work	2	Printing press	5	21481.48	7407.41	28888.89
Sewing machine repairing	2	Sewing machine repairing	4	13636.36	7272.73	20909.09
Photography work	3	Photography work	4	50000.00	16666.67	66666.67
Computer service work	2	Private service	5	29629.63	9629.63	39259.26
Teaching	3	Tuition or coaching centre	5	10000.00	4000.00	14000.00
Bag making	3	Bag making	5	12000.00	8000.00	20000.00
Cosmetic trading	2	Cosmetic trading	3	10000.00	25000.00	35000.00
Denting and painting	1	Motor car service centre	5	18000.00	12000.00	30000.00
Carpentry	2	Carpentry	3	14166.67	13333.33	27500.00
Inlay work	3	Inlay work	5	8814.81	5444.44	14259.25
Laundry work	2	Laundry work	3	24166.67	6250.00	30416.67
Betel selling	1	Intoxicant work	2	30000.00	20000.00	5000.00
Helping at shop	1	Cycle repairing work	2	50000.00	25000.00	75000.00
Welding work	2	Welding work	4	16851.86	12592.59	29444.45
Warehousing work	2	Warehousing	3	50000.00	20000.00	70000.00
Embroidery	3	Embroidery	4	25000.00	7500.00	32500.00
Taj manufacturing	1	Taj trading	2	50000.00	25000.00	75000.00
Chick making	2	Chick making	4	15000.00	10000.00	25000.00
Cycle repairing	2	Cycle repairing	2	25000.00	10000.00	35000.00
Dust disposing work	2	Disposal work	3	16666.67	333.33	20000.00
Shoe making	4	Oil mill	5	66666.67	1666.67	68333.34
Soda making	2	Soda making	4	10000.00	5000.00	15000.00
Cycle repairing	2	Cycle repairing	3	10000.00	6666.67	16666.67
Bhadbhonja work	1	Bhadbhonja work	2	5000.00	20000.00	25000.00

Table-18 (contd....)

Wood craft making	3	Wood craft making	4	12500.00	8750.00	21250.00
Tea stalls	2	Tea stalls	3	12000.00	6000.00	18000.00
Stove repairing	2	Stove repairing	4	25000.00	15000.00	40000.00
Cement pot making	1	Cement pot making & selling	2	12500.00	12500.00	25000.00
Coat stitching	3	Coat stitching work	4	12500.00	7500.00	20000.00
Juice making and selling	1	Juice selling	3	1666.67	10000.00	11666.67
Stationery trading work	2	Stationery trading work	3	40000.00	10000.00	50000.00
Black smithy	2	Black smithy	3	10000.00	25000.00	35000.00
Tailoring	2	Binding	3	8333.33	3333.33	11666.67
Chemical work	2	Chemical shop	3	33333.33	33333.33	66666.66
Carpentry	2	Trading of daily needs products	3	40000.00	10000.00	50000.00
Band and drum work	7	Band and drum work	9	12500.00	1250.00	13750.00
Cycle repairing	2	Flour mill	3	20000.00	13333.33	33333.33
Brush making	3	Brush making	4	12500.00	7500.00	20000.00
Tubelight selling	3	Decoration work	5	16666.67	7777.78	24444.45
Chhillai work	2	Chhillai work	3	18125.00	4375.00	22500.00
Overall	2		4	24805.76	11884.89	36690.65

Source : Based on the information collected from 500 informal sector workers in Agra city.

Table-19 portrays the workers per unit in ongoing economic activities and the requirement of workers per unit, per worker fixed capital, working capital and total productive capital in proposed unregistered informal economic activities in Kanpur. It is found that, out of 52 ongoing unregistered informal economic activities, 13 economic activities, such as, (i) printing press, (ii) shoe fitting, (iii) dairying, (iv) steel furniture making, (v) travel agency, (vi) hardware, (vii) leather manufacturing, (viii) engine repairing, (ix) spice packing, (x) soap manufacturing, (xi) oil mill, (xii) photo frame making, and (xiii) bag making are more employment intensive economics activities employing to 3 or more persons per unit. The unregistered informal sector workers engaged in corresponding activities have expressed their willingness to be involved in the similar type of economic activities. Thus, there seems to be a movement from worker to owner almost in the same type of unregistered informal activity.

Table-19 : **Workers Per Unit in Present and Per Worker Requirement of Capital and Employment per Unit in Proposed Unregistered Informal Economic Activities in Kanpur City : 1999**

Present economic activity	Workers per unit	Proposed economic activity	Require-ment of Workers per unit	Requirement of Per worker fixed capital (Rs.)	Requirement of Per worker working capital (Rs.)	Requirement of Per worker total productive capital (Rs.)
Selling of cloths	2	Textile manufacturing	3	26388.88	22361.11	48749.99
Press work	3	Printing press	5	28000.00	9666.67	37666.67
Cooking	2	Hotel and restaurant	3	18275.86	9741.38	28017.24
Shoe fitting	3	Shoe factory	5	16538.46	8653.85	25192.31
Private teaching (tutor)	1	Tuition work	5	10000.00	7000.00	17000.00
Selling of plastic products	2	Rubber & Plastic product mfg.	3	20208.00	13125.00	33333.00
Selling of shoes	2	Shoe trading	3	16666.67	30000.00	46666.67
Watch repairing	2	Watch repairing	3	50000.00	50000.00	100000.00
Computer servicing	2	Private service	3	22083.33	12916.67	35000.00
Electronic selling	2	Electronic sales & servicing	2	28857.14	20000.00	48857.14
Electric repairing work	1	Electric sales & servicing	2	20232.56	22906.98	43139.54
Tea stall	1	Tea stalls	2	17083.33	15416.67	32455.00
Cycle repairing	2	Cycle repairing	3	17272.73	6363.64	23636.37
Hair cutting work	2	Hair dressing	4	14390.24	6585.37	20975.61
Tailoring	2	Tailoring	3	10595.24	6547.62	17142.86
Black smithy	1	Black smithy	2	18333.33	10000.00	28333.33
Green grocery work	1	Green grocery work	1	30000.00	10000.00	40000.00
General store	2	General store	3	22833.33	32666.67	55500.00
Dairy work	3	Dairy products	4	16666.67	8333.33	25000.00
Milkman	2	Ghee selling	3	36666.67	33333.33	70000.00
Steel furniture making	3	Metal products manufacturing	4	18947.37	18947.37	37894.74
Leather selling	2	Raw leather manufacturing	4	28571.43	10000.00	38571.43
Sewing machine repairing	2	Sewing machine repairing	3	50000.00	16666.67	60666.67
Welding work	2	Welding work	3	20000.00	15000.00	35000.00
Chemical work	2	Chemical manufacturing	5	34545.45	29090.91	63636.36
Travel agency	3	Travel agency	4	23333.33	18333.33	41666.67
Juice making and selling	2	Juice making and selling	3	15000.00	9166.67	24166.67
Hardware	3	Hardware selling	4	25000.00	15000.00	40000.00
Pan masala packing work	2	Pan masala packing work	3	16666.67	5000.00	21666.67
Kharad work	2	Kharad work	4	26666.67	9047.62	35714.29
Auto repairing work	2	Auto repairing work	4	24444.44	13888.89	38333.33
Leather manufacturing	4	Leather products manufacturing	6	16000.00	14000.00	30000.00
Bakery	2	Bakery	4	15080.00	10000.00	25080.00
Stationery selling	2	Stationery selling	4	23095.24	26190.48	49285.72
Engine repairing	3	Motor servicing	5	33333.33	13333.33	46666.67
Photography work	2	Photography studio	4	32500.00	11250.00	43750.00
Spice packing work	3	Spice selling	5	25000.00	7500.00	32500.00
Soap manufacturing	3	Soap manufacturing & trading	6	6250.00	37500.00	43750.00
Pan selling	1	Intoxicant manufacturing	4	17142.86	5714.29	22857.15
Oil mill	5	Oil mill	8	22400.00	14000.00	36400.00
Photo frame making	3	Photo studio	6	5000.00	7500.00	12500.00
Namkeen selling	2	Namkeen manufacturing	6	10000.00	6666.67	16666.67
Bag making	3	Bag making	6	3333.33	10000.00	13333.33
Cotton selling	2	Cotton selling	4	20000.00	25000.00	45000.00
Pottery work	2	Pottery	4	7500.00	10000.00	17500.00
Light decorating	2	Light decorating work	4	25000.00	12500.00	37500.00

Table-19 (contd....)

Laundry work	2	Dry cleaning	3	16666.67	6666.67	23333.34
Chick making	2	Chick making	3	13333.33	3333.33	16666.67
Carpentry	2	Carpentry work	4	17142.86	17142.86	34285.72
Plywood making work	2	Timber work	4	60000.00	40000.00	100000.00
PCO	1	PCO	2	42857.14	10000.00	52857.14
Auto driving	1	Auto driving work	1	100000.00	5000.00	105000.00
Overall	2		4	22550.00	15420.00	37970.00

Source : Based on the information collected from 500 informal sector workers in Kanpur city.

The per person requirement of fixed capital to start an unregistered informal sector unit/ establishment in the Kanpur city comes to Rs.22,550, working capital to Rs.15,420 and to total productive capital to Rs.37,970. Further, the requirement of total productive capital per worker for starting a new unit/establishment is the largest in case of self-employed auto driving activity (Rs.1,05,000), while lowest (Rs.12,500) in photo studio among the 52 unregistered informal activities.

It may recapitulated that the requirement of total productive capital to start a new unit/ establishment is Rs.37,970 on an average. Thus, rehabilitation programme needs to provide minimum of Rs.37,970 to start a fresh unit/establishment so as to enhance the earning of those who are willing to start a fresh unit/establishment. However, such a programme must be concerned with productive employment generating potential following the capital saving technology. Based on these, we find that : (i) teaching, (ii) dairy products, (iii) leather manufacturing, (iv) bakery, (v) pan shop, (vi) photo studios, (vii) namkeen making, (viii) bag making, and (ix) pot making are the major unregistered economic activities, each requiring upto per person total productive capital of Rs.30,000 and is able to generate employment of 3 or more persons per unit.

Table-20 gives the information on employment per unit in existing unregistered economic activities, per worker fixed capital, working capital, productive capital and employment per unit in the proposed unregistered informal economic activities in Puri city. It is discovered that, out of 48 existing unregistered economic activities, 18 activities, i.e. (i) fishing, (ii) auto repairing, (iii) tea stall, (iv) cycle and rickshaw repairing, (v) cycle trading, (vi) agarbatti manufacturing, (vi) fish catching, (vii) fibre-glass business, (viii) hand-pump selling, (ix) fish trading, (x) bag making, (xi) rangoli work, (xii) photography, (xiii) lubricant selling, (xiv) cell item selling, (xv) flour mill, (xvi) poultry work, (xvii) handicraft selling, and (xviii) drying of fish are employment intensive economic activities employing 3 or more persons per unit. Also, unregistered informal sector workers expressed their willingness to be employed in the similar type of unregistered economic activities.

Table-20 : **Workers Per Unit in Present and Per Worker Requirement of Capital and Employment per Unit in Proposed Unregistered Informal Economic Activities in Puri City : 1999**

Present economic activity	Workers per unit	Proposed economic activity	Requirement of Workers per unit	Requirement of Per worker fixed capital (Rs.)	Requirement of Per worker working capital (Rs.)	Requirement of Per worker total productive capital (Rs.)
Fish selling	2	Fish trading	4	17111.11	9333.33	26444.44
Fishing work	5	Net trading	8	22500.00	7500.00	30000.00
Cooking	2	Restaurant and hotel	4	16444.44	7888.89	24333.33
Cloth selling	2	Cloth manufacturing	4	19545.45	20000.00	39545.45
Metal pot selling	2	Metal pot manufacturing	4	60000.00	20000.00	80000.00
Sea guarding work	1	Umbrella and tube selling	3	25000.00	15000.00	40000.00
Auto repairing	4	Auto repairing work	6	16000.00	3000.00	19000.00
Pan selling	1	Pan selling	2	19250.00	10250.00	29500.00
Tea stall	3	General store	4	28797.47	19202.53	48000.00
Tailoring work	2	Tailoring	5	7424.24	3636.36	11060.60
Cycle & rickshaw repairing	3	Rickshaw & cycle repairing and selling	6	11785.71	8357.14	20142.85
Stationery selling	2	Stationery trading	4	34285.71	22857.14	57142.85
Cycle trading	3	Rickshaw & cycle repairing	5	20000.00	5000.00	25000.00
Welding work	2	Welding work	6	8333.33	5000.00	13333.33
Kharad work	2	Kharad work	4	25000.00	5000.00	30000.00
Agarbatti manufacturing	4	Agarbatti selling	7	5714.29	1428.57	7142.86
Fishing and sea guarding	1	Motor boat garage	4	32500.00	5000.00	37500.00
Sea guarding work	1	Information bureau	5	10000.00	10000.00	20000.00
Fish catching	4	Mfg.of misc. products for boat and net	6	20000.00	50000.00	70000.00
Private teaching (tutor)	1	Coaching centre	5	10000.00	23333.33	33333.33
Fibre glass business	3	Fibre glass manufacturing	7	14285.71	1428.57	15714.28
Medicine trading	2	Electronic product selling	4	25000.00	5000.00	30000.00
Namkeen selling	2	Namkeen trading	4	33333.33	6666.67	40000.00
Bangle selling	1	Bangle trading	2	13333.33	23333.33	36666.56
Tea stall	2	Tea stall	3	13750.00	8750.00	22500.00
Handpump selling	3	Handpump sales & service work	5	20000.00	10000.00	30000.00
Green grocery work	1	Green grocery work	2	25000.00	2500.00	27500.00
Fish trading	4	Rickshaw garage	6	33750.00	11250.00	45000.00
Idol making	2	Idol manufacturing	7	23076.92	5384.62	28461.54
Dry fish selling	1	Dry fish trading	3	20750.00	11000.00	31750.00
Driving	1	Auto driving	1	121764.71	9352.94	131117.65
PCO	1	PCO, fax, xerox work	2	116666.67	38333.33	155000.00
Bag making	3	Bag making	7	7105.26	2894.74	10000.00
Tyre retrading	2	Tyre retrading	4	25000.00	25000.00	50000.00
Cosmetic selling	2	Cosmetics	3	50000.00	6666.67	56666.67
Rangoli work	3	Rangoli shop	4	20000.00	10000.00	30000.00
Photography work	3	Photography studio	6	42857.14	11428.57	54285.71
Lubricant selling	3	Lubricant shop	6	75000.00	7500.00	82500.00
Cell item selling	3	Cell item selling	2	27500.00	6500.00	34000.00
Carpentry	2	Carpentry	5	10000.00	10000.00	20000.00
Flour mill	3	Flour mill	6	50000.00	5000.00	55000.00
Electronic repairing and selling	2	Electronic	4	15000.00	35000.00	50000.00
Poultry work	5	Poultry farm	8	40000.00	10000.00	50000.00
Meat selling	2	Meat shop	4	20000.00	6000.00	26000.00
Handicraft selling	3	Handicraft manufacturing & selling	5	33333.33	3333.33	36666.66
Drying of fish	5	Fish selling	7	17706.04	4719.78	22425.82
Overall	2		5	26620.00	10660.00	37280.00

Source : Based on the information collected from 500 informal sector workers in Puri city.

So as to start an unregistered informal sector unit/establishment, the per worker requirement of fixed capital comes to Rs.26,620.00, working capital Rs.10,660 and to total productive capital to Rs.37,280.00, in the Puri city. Thus, there needs to be a provision of minimum of Rs.37,280 for starting a unit and this has to be taken care of by the rehabilitation programme for the upliftment of unregistered informal sector workers. However, such a programme needs to be highly selective, discriminatory and remunerative for selecting such units/establishments. Based on productive employment generating and capital saving criteria, the rehabilitation programme may consider starting of such units/establishments as : (i) net trading, (ii) auto repair shop, (iii) tailoring, (iv) rickshaw and cycle repairing, (v) welding, (vi) agarbatti selling, (vii) information centre at beach, (viii) fibre glass manufacturing, (ix) hand-pump sales and service, (x) idol manufacturing, (xi) bag making, (xii) carpentry, and (xiii) fish selling unregistered informal sector activities. Each activity, on an average, requires per person total productive capital upto Rs.30,000, which proposes to generate the employment upto 5 persons per unit/establishment (table-20).

VIII.1 Problems

We may examine the problems likely to be encountered for workers for starting the new unregistered informal sector units/establishments. This has been summarized in table-21 for Agra, Kanpur and Puri cities. In Agra, 72.80 per cent and to 71.80 per cent of workers are of the view that they are likely to face the problems arising on account of shortage of working capital and in arranging infrastructure. Also, 91.00 per cent, 79.00 per cent and to 65.60 per cent of workers have reported that they are likely to face the problems on account of non-availability of local raw materials, inefficient marketing of products and to fierce competition. On the other hand, 76.20 per cent of workers are of the view that they are not likely to face the problem in terms of availability of skilled workers. It would thus imply that shortage of local raw materials, inefficient marketing and infrastructure deficiency would likely to be the major bottlenecks for the workers wishing to be engaged in unregistered informal sector activities in Agra city (table-21).

In Kanpur, as much as 97.60 per cent, 90.20 per cent and to 54.20 per cent of workers wishing to be involved in unregistered informal economic activities are likely to face the problems arising on account of inefficient marketing, tough competition and the shortage of working capital. However, as much as 100 per cent and 96.20 per cent of unregistered informal sector workers would not likely to face the problems in terms of availability of raw materials and shortage of skilled workers. Thus, inefficient marketing, fierce competition and shortage of working capital have generally been recognized, which unregistered informal sector workers are likely to face if they wish to be involved in fresh unregistered informal economic activities in Kanpur city. In Puri

city, the unregistered informal sector workers are likely to face the problems with respect of procurement of working capital and availability of infrastructure if they wish to be engaged in fresh unregistered informal economic activities. In all cities taken together, lack of infrastructure, non-availability of local raw materials, inefficient marketing and shortage of working capital have generally been underlined as critical problems for those workers, who are wishing to be involved in unregistered informal economic activities (table-21).

Table-21: **Problems Likely to be faced by Unregistered Informal Workers/Owners in Proposed Economic Activities in Agra, Kanpur and Puri Cities**

Problems likely to be faced	Responses of workers in Agra			Responses of workers in Kanpur			Responses of workers in Puri			Total		
	Yes (%)	No (%)	Total (%)	Yes (%)	No (%)	Total (%)	Yes (%)	No (%)	Total (%)	Yes (%)	No (%)	Total (%)
Job/work opportunities were non-existent	38.90	61.10	100.00	15.40	84.80	100.00	--	100.00	100.00	24.00	76.00	100.00
Tough competition in the market	65.60	34.40	100.00	90.20	9.80	100.00	--	100.00	100.00	76.50	23.50	100.00
Difficulties in arranging infrastructure	71.80	28.20	100.00	44.20	55.80	100.00	72.40	27.60	100.00	94.20	5.80	100.00
Problems in marketing	79.90	21.00	100.00	97.60	2.40	100.00	--	100.00	100.00	88.34	11.66	100.00
Shortage of working capital	72.80	27.20	100.00	54.20	45.80	100.00	73.60	26.40	100.00	66.87	33.13	100.00
Non-availability of local raw materials	91.00	9.00	100.00	--	100.00	100.00	--	100.00	100.00	91.00	9.00	100.00
Shortage of skilled workers	23.80	76.20	100.00	3.80	96.20	100.00	--	100.00	100.00	14.00	86.00	100.00

Source : Based on the information collected from 500 unregistered informal sector workers wishing to start new economic activities in each cities of Agra, Kanpur and Puri.

IX. Implications for Policy

Present study is not without policy implication. It may be recapitulated that, of the total city's income, the income generated by the sample of unregistered informal sector units/ establishments has been estimated at 0.49 per cent in Agra, 0.17 per cent in Kanpur, 0.86 per cent in Puri and to 0.30 per cent in all cities. Also, out of the total income from the sample of unregistered informal segment, the income generated by the unregistered manufacturing segment comes to 50.52 per cent in Agra, 47.33 per cent in Kanpur and to 17.51 per cent in Puri city. Income from non-manufacturing comes to 49.48 per cent in Agra, 52.67 per cent in Kanpur and to 82.49 per cent in Puri city. Similarly, out of the total employment from the sample of unregistered informal segment, the unregistered manufacturing informal sector generated the employment of 53 per cent in Agra, 51 per cent in Kanpur and to 18.80 per cent in Puri, while, employment generated by the unregistered non-manufacturing informal sector comes to 47 per cent in Agra, 49 per cent in

Kanpur and to 81.20 per cent in Puri city. Since the per unit/establishment employment generating potential in the non-manufacturing segment is likely to be highly limited on account of meagre use of machinery and equipment, it would, therefore, be useful to encourage the manufacturing segment of unregistered informal sector. Thus, problems being faced by the unregistered informal manufacturing units/establishments need to be overcome on a priority basis.

The study identifies the lack of infrastructure, non-availability of raw materials, inefficient marketing and shortage of working capital as major constraints for development of unregistered urban informal sector. In the light of above, it would be worthwhile to take measures urgently so as to overcome such problems. The following suggestive measures are required to be undertaken on a priority basis. First, as inadequate infrastructure facility has generally hampered the growth of unregistered manufacturing, informal sector unit/establishment. It would be advisable that land, building, machinery and equipment required for the smooth functioning of the manufacturing informal units/establishments need to be extended with immediate effect. May be that Government (State as well as Centre) may consider to extend the infrastructural facility such as, land, building, machinery and transportation on discriminatory and concessional basis. Also, quota for land, building, machinery and equipment needs to be earmarked only for those engaged in unregistered manufacturing informal segment. Such facility is suggested to be made available at the affordable rate of interest to the unregistered manufacturing informal sector entrepreneurs/workers for starting their unit/ establishment. It is, however, suggested that above facility must only be provided to the manufacturing informal entrepreneurs/workers for establishing the unit/establishment for productive employment generation. If such facility is found to be misused and tailored towards the maximization of profits, it would be advisable that such facilities are withdrawn from the unregistered manufacturing informal entrepreneurs/workers.

Second, the untimely and the inadequate raw material availability has been another crucial problem for the smooth operation of unregistered manufacturing informal sector units/ establishments. Normally, informal entrepreneurs, on account of small scale of operation, tend to purchase raw materials in smaller quantity at the price, which is generally higher than those paid by the formal entrepreneurs. Sometimes, the harassment by the trader is also observed as a general practice in terms of creating artificially raw material scarcity. To overcome such problems, it may be worthwhile to fix up quota for raw materials for the unregistered manufacturing informal sector units/establishments.

Third, shortage of working capital is yet another important problem, which is found as a root cause of technological backwardness and poor infrastructural facility. It seems that working of the existing financial institutions are not suitable to meet the needs of the unregistered manufacturing informal entrepreneurs/workers. Quite often, interest charged through the

unregistered manufacturing informal entrepreneurs/workers is beyond their paying capacity. It would be advisable that limit for loan should be raised on the one hand, and on the other the rate of interest should be reduced. It is suggested that a separate credit scheme needs to be introduced by the banks to extend the financial support to the unregistered informal entrepreneurs/workers. Government may even think for establishing the Unorganized Informal Sector Development Bank, with a clear purpose to extend the credit support to the informal entrepreneurs/workers at the low rate of interest (say 5 per cent or less) after the careful examination of paying capacity and feasibility of requirement of the unregistered informal sector loan seekers.

Fourth, as a part of rehabilitation programme, in Agra city, on an average, total productive capital of Rs.36,690.65 per person is required along with 3 persons or more per unit to start a unit/ establishment within the unregistered manufacturing informal segment. Similarly, in Kanpur, total productive capital of Rs.37,970 per person is required along with 3 persons or more per unit so as to start the fresh unit/establishment. In Puri also, total productive capital of Rs.37,280 per person along with 5 persons or more per unit/establishment are required to start a fresh unregistered informal unit/establishment. Based on the total productive capital requirement per person as well as the employment generating potential criteria, various unregistered economic activities have been suggested in cities of Agra, Kanpur and Puri. As a step further, this would likely to help in socio-economic development of unregistered manufacturing informal sector workers/entrepreneurs. It would be advisable that a concerted effort is required to be made by the state and central government to promote the economic activities suggested under the rehabilitation programme for socio-economic development of unregistered informal sector workers/entrepreneurs.

The various promotional policy measures suggested in the study need to be made popular at the bottom level of the society. May be that such measures are popularized through TV channels, radios and local and non-local newspapers. Also, concerted effort is required to be made by the Non-Government Organizations (NGOs), reliable research organizations and Government Departments for making the promotional measures known to the people by seminars, conferences and meetings at regular intervals. It needs to be emphasized that various promotional measures suggested must concern to the growth of unregistered informal sector in the long run perspective rather than mere survival. If such policy measures are treated as "Stretches" and permanent device for growth of unregistered informal sector units/ establishments, it would be desirable that these must be discontinued.

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